

MAR 8 1937

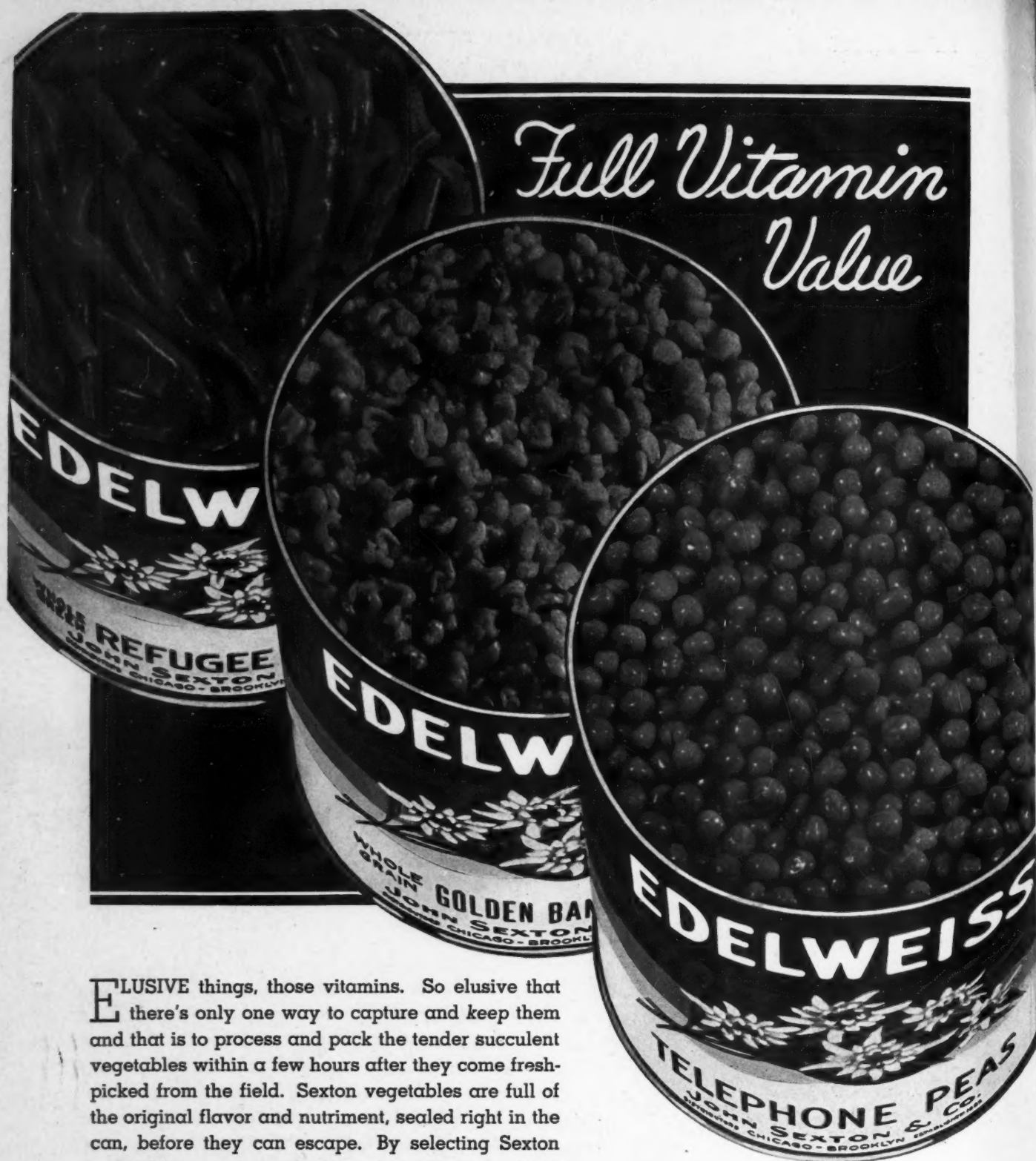


the
MODERN
HOSPITAL

VOLUME 48

MARCH 1937

NUMBER 3



ELUSIVE things, those vitamins. So elusive that there's only one way to capture and keep them and that is to process and pack the tender succulent vegetables within a few hours after they come fresh-picked from the field. Sexton vegetables are full of the original flavor and nutriment, sealed right in the can, before they can escape. By selecting Sexton vegetables, you not only have the assurance of full vitamin value but the added assurance that you are getting the finest of the crop in the districts noted for their outstanding varieties. Containers chock full, too, and the size most economical for your use.

Sexton Specials offer outstanding values in foods prepared exclusively for those who feed many people each day.

JOHN SEXTON & CO.

CHICAGO

Manufacturing Wholesale Grocers

BROOKLYN

America's Largest Distributors of No. 10 Canned Foods

CONTENTS

For March, 1937

Just in Passing—

Cover Page—Allegheny General Hospital, Pittsburgh. York and Sawyer, New York City, Architects.

Looking Forward 41

Our editorial columns this month are concerned with the future of group hospitalization, certain regrettable attitudes of nurses, discontented employees, medical needs in California, training of administrators, staff disloyalty.

Field for Investment 44

Four uses of the business dollar and an important fifth are named by STUART M. CROCKER, chairman of the United Hospital Campaign Committee, New York City, in his forceful appeal for support of voluntary hospitals.

Fifty Years a-Growing 46

From fifty to 600 beds in fifty years is the proud record of Allegheny General Hospital, whose childhood, adolescence and manhood are described in this lavishly illustrated article by G. WALTER ZULAUF, M.D., the superintendent.

There Once Was a Board 55

Vastly different are the trustees of yesterday and today as pictured by RAYMOND P. SLOAN, associate editor.

The Fruit of Research 58

Is Welfare Hospital, an island project now taking shape under the leadership of the committee on chronic illness of the Welfare Council in New York City. ISADORE ROSENFELD, research assistant in architecture to New York City's commissioner of hospitals, explains the principles that governed the planning of this vast enterprise.

In Case of Flood 65

Follow the practical advice of H. ELDRIDGE HANNAFORD of Samuel Hannaford & Sons, architects, Cincinnati. It is presented here in outline form.

Flood Victims Carry On in Kentucky 66

Where at St. Elizabeth's Hospital, Covington, the Sisters of the Poor of St. Francis triumphed over such problems as lack of light and lack of water, with the eager help of city officials, members of the Red Cross and volunteer workers.

Impressions of the Flood From an Ohioan 69

DR. FRED G. CARTER, superintendent of Christ Hospital, Cincinnati, in an informal letter gives a picture of the flood situation in his state.

Medical Care Surveyed 70

As it is in California.

Spotlight on the Pharmacy 71

The physical layout of a pharmaceutical department and the equipment necessary for its efficient conduct are outlined by MORRIS DAUER, PH.G., B.Sc., chief pharmacist, Kings County Hospital, Brooklyn, N. Y.

THE Ohio River

flood has now passed and at this writing seems to be proceeding to the Gulf without further disaster. Hospitals in the flood zone, however, will not soon forget the dramatic experiences during flood time. Some of these are presented in this issue (p. 66). Descriptions from other hospitals arrived too late to include.

H. L. Dobbs, superintendent, Kentucky Baptist Hospital, Louisville, sends a graphic account of flood waters coming into the basement and boiler room of his hospital. By dint of heavy pumping the boilers were kept going although the water did come within one inch of the fire boxes. When electricity was cut off, porters were organized to carry patients up and down stairs and Boy Scouts formed a corps to deliver food from the main kitchen to the individual diet kitchens. Some 12,000 inoculations for typhoid and smallpox were given in the hospital within a few days. The nurses and other employees performed their duties so calmly that two patients complained that they didn't get their morning papers!

The Speers Memorial Hospital at Dayton, Ky., actually had to evacuate the hospital and nurses' home completely when water reached a flood stage of 80 feet. The first floor of the hospital, 15 feet above the sidewalk, was covered with 13 inches of water. The hospital carried on in the high school building in Dayton where 108 patients were cared for, eight major operations performed and twelve babies born. The forty supervisors and nurses slept on army cots in two small schoolrooms. The school had no electric lights or water but did have heat. Water was hauled from as far as Fort Wayne, Ind., and Chicago. After eighteen days at the schoolhouse, pa-

Published monthly by The Modern Hospital Publishing Co., Inc., 919 North Michigan, Chicago, and 101 Park Avenue, New York. Otho F. Ball, president; Raymond P. Sloan, vice president; Stanley R. Clague, secretary; J. G. Jarrett, treasurer. Yearly subscription, United States and Possessions and Canada, \$3; foreign, \$4. Single current copies, 35 cents; back copies, 50 cents to \$1. Charter member Audit Bureau of Circulations. Copyright, 1937, by The Modern Hospital Publishing Co., Inc. Entered as second-class matter, October 1, 1918, at the Post Office at Chicago, Ill., under the act of March 3, 1879. Printed in U. S. A.

CONTENTS

tients were moved back into the hospital using the second, third and fourth floors. "It is impossible at this time to estimate the loss," writes the superintendent, Sophie F. Steinhauer, "but we do know that all of the floors which were covered by water were destroyed."

The Hahns at the Protestant Deaconess Hospital, Evansville, Ind., went through many sleepless nights trying to meet the emergencies produced by the flood. Water did not reach the hospital but the loss of city water and the heavy increase in patients tried the hospital's ingenuity. Thirty men were engaged in shifts of ten men each to carry water to the utility and toilet rooms. Since their refrigerators are water-cooled, fans and humidifiers had to be set up to air-cool them and save the large supply of perishable foods. The hospital was fortunate, however, in never being without lights, heat and power.

So the flood has passed. In this issue Mr. Hannaford tells the steps that should be taken to check up on flood damage and start rehabilitating the hospital (p. 65). We hope you will never need to refer to his article, but it would be a good plan to note it carefully now and refer to it in the future in case of need.

In our January issue was an article by Dr. Charles E. Remy describing a new type of instrument table especially adapted to brain surgery. In addition to the other advantages cited in the article the surgeons at Minneapolis General Hospital have found that the table is especially valuable because the anesthetist sits on the opposite side of the drapes from the place where the surgeon is working. She is almost under the instrument table and completely out of the way of the surgeon and his assistants. This table is now available to other institutions through a leading hospital furniture dealer.

We live in an age of law. And each time legislatures meet we are more lawful. So vast are the bodies of law affecting each different aspect of human life that law-

Toward That Utopian Building..... 75

Which, JOSEPH C. DOANE, M.D., the editor, believes will come into being only when the architect and the superintendent or consultant cooperate in the planning.

More Aid for Cancer Victims..... 79

Is offered by the Josephine Lendrim Tumor Clinic, auxiliary of Paterson General Hospital, Paterson, N. J. JAMES S. GALLO, M.D., who describes the service given by the clinic, is an associate surgeon in the tumor division.

Buying in a Big Way..... 85

By HORACE W. COOPER and HENRY I. KLOPP, M.D., steward and superintendent, respectively, of Allentown State Hospital, Allentown, Pa. The article covers the major steps of purchasing procedure in a large mental hospital.

Avoiding Mistakes in Building..... 89

Means a careful rechecking of the finished plans after architects and engineers have pooled their efforts. The defects and omissions discussed by M. H. FOSTER, M.D., chief medical officer, Immigration Station, Ellis Island, N. Y., have been noted in buildings erected in the past five years.

PLANT OPERATION

Sterilizing Surgical Instruments and Utensils..... 92

The second of a series of studies on methods of sterilization, by E. E. ECKER, PH.D., and RUTH SMITH, M.A., of the institute of pathology of Western Reserve University and the University Hospitals, Cleveland.

Why Take a Chance?..... 100

That many cross connection and back siphonage problems are not so difficult when sanity and science are substituted for misinformation and commercialism, is the contention of A. A. KALINSKE, plumbing research engineer, University of Iowa, and FRANK R. KING, sanitary engineer of Wisconsin State Board of Health, Madison.

Twenty Rooms and Two Hundred Dollars..... 104

In the hands of DORIS L. DUNGAN, executive housekeeper, West Jersey Homeopathic Hospital, Camden, N. J., provided an adventure in decoration, with happy results.

FOOD SERVICE

Planning Meals for Veterans..... 106

Is a complex problem, declares GRACE M. BULMAN, dietitian at the Veterans' Administration, Washington, D. C.

The China Purchase Act..... 108

Should be governed by certain basic rules here set forth by JAMES C. GLIEMMO, who is in charge of purchasing at Edwin Shaw Sanatorium, Akron, Ohio.

Fast Freezing for Desserts..... 110

Can be accomplished to advantage by the use of the counter freezer and hardening cabinet described by LULU G. GRAVES, consultant in dietetics and kitchen organization, New York City.

Hospital Barometer	8
The Editor Talks It Over.....	38
What Others Are Doing.....	78
Someone Has Asked.....	84
The Housekeeper's Corner.....	98
Tray Service	112
Food for Thought.....	112
Breakfast and Supper Menus.....	114
News in Review.....	116

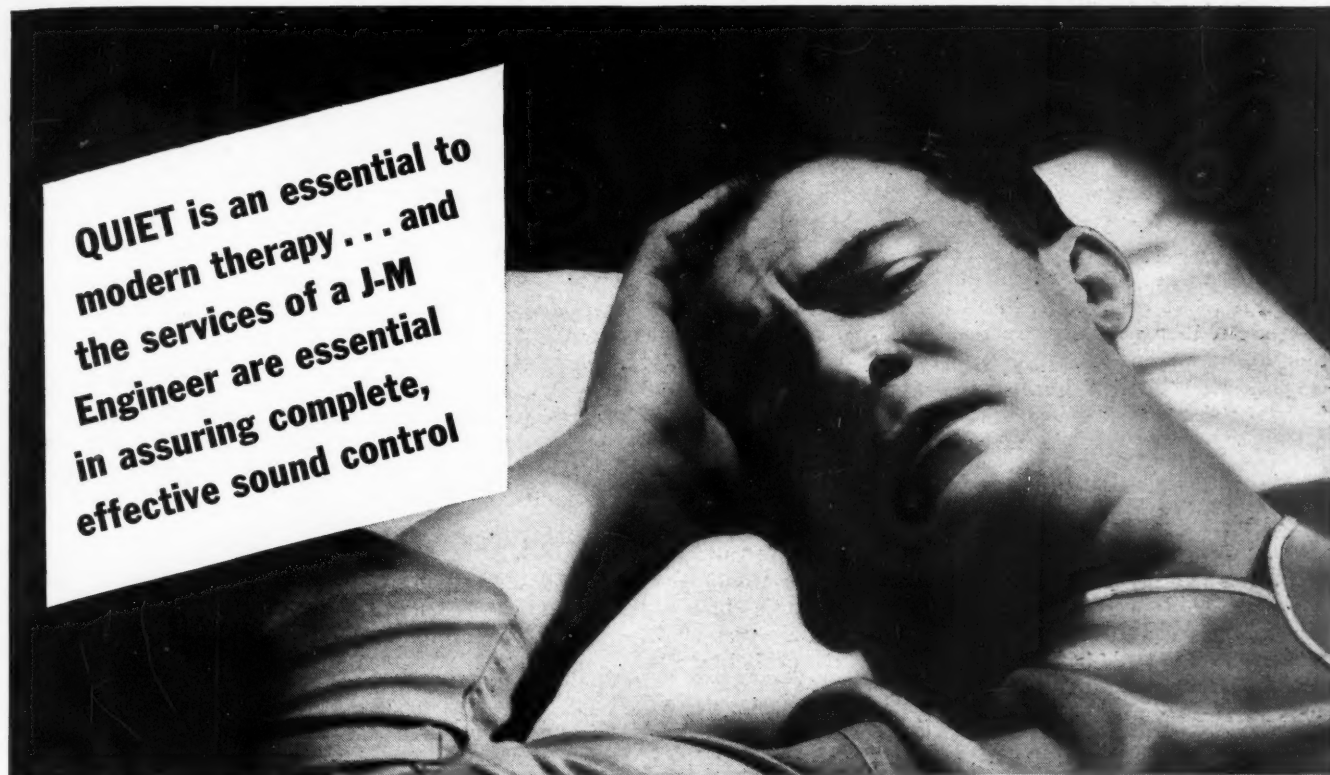
Names in the News.....	126
Reader Opinion	128
Literature in Abstract.....	130
Books on Review.....	136
New Products	138
Index of Advertisers.....	10
Want Advertisements (Positions Wanted, Open, etc.).....	163

"PATIENT IS RESTING



—as well
as can be
expected"

QUIET is an essential to modern therapy . . . and the services of a J-M Engineer are essential in assuring complete, effective sound control



HOW well can patients be expected to rest in rooms or wards unprotected by proper acoustical treatment?

Noises from corridors and near-by rooms . . . the hum or vibration of hospital machinery . . . are obviously detrimental to recovery.

The problem of effective sound control, however, is not merely a matter of selecting a good quieting treatment. Equally important is the absolute surety that the right treat-

ment is being used in the right places.

That is why an increasing number of hospitals using J-M Sound-Control Materials do so upon the recommendation of J-M Acoustical Engineers. These men, in a large part responsible for developing noise absorption into an exact science, can assure your hospital of the most efficient sound-control methods available today. They not only provide for quieting treatment in rooms, wards, corridors, dining rooms, kitchens,

etc., but also isolate undesirable noises coming from machinery in other parts of the hospital.

Send for New Brochure

"Johns-Manville Methods of Sound Control for Quieting Hospitals" tells how you may avail yourself of the services of a J-M Acoustical Engineer. It also contains complete information on J-M Acoustical Products, famous for their high rate of sound absorption—achieved at no sacrifice of fire safety and sanitation. For your copy of this new brochure, address Johns-Manville, 22 East 40th St., N. Y. C.

**ACTUALLY IT COSTS NO MORE
TO USE THE BEST
ACOUSTICAL MATERIALS**



Johns-Manville

**SOUND-CONTROL MATERIALS AND
ACOUSTICAL-ENGINEERING SERVICE**

The Editor Talks It Over

• Dr. David Seabury, the author of "How to worry successfully," spoke some time since at a New York luncheon meeting of the League for Political Education. He had much to say in praise of good, sound worry which, said he, is to the mind what bread is to the diet. No Pollyannas for Doctor Seabury, who apparently believes that he who does not worry is not likely to succeed. "Be not content with what thou art if thou wouldst become what thou art not" is something of a challenge to the self-satisfied one who having striven now contentedly rests from his labors. 'Twould be better for the sick if there were fewer Pollyannas, both male and female, at the heads of its hospitals. But to worry and do nothing about it is almost as fatal to progress as is the hibernation of self-approval. Perhaps the name of the fabled Narcissus who fell in love with his own image should be added to that of Pollyanna as representing inappropriate traits for the hospital worker.

• Scientists have remarked that due to the delicate heat regulating mechanism of our bodies we live in an atmosphere of our own creation. When exposed to heat, surface vessels dilate and sweat glands become active, cooling the blood. When the skin surface is cooled the local vessels contract and the blood is driven inward to the deeper tissues. No mechanism of man's invention can equal either in its automatic action or the perfection of heat regulation that of the human body. Man reacts to heat and cold like one of the lower vertebrates when he loses this automatic blood vessel reaction. Then his body temperature instead of remaining constantly at 98.2 becomes that of the air round about him.

• Few know of William Thomson, the son of a professor of mathematics in the University of Glasgow and his contributions to the welfare of mankind. More, no doubt, recognize the name of Lord Kelvin of Largs who was William Thomson until knighted in 1892 in recognition of his contribu-

tions along many scientific lines. Hospital workers know him best because of his studies of heat and cold which today are practically exemplified by modern refrigeration and air conditioning. Before Lord Kelvin's death in 1907 artificial ice was being manufactured on a very large scale. Seven years later the electric refrigerator was first offered to the public on a commercial basis. The contributions of this Belfast boy to the health, happiness and comfort of the whole world rightfully places his name on the roll of honor with those of Lister and Pasteur.

• Have you ever visited the diabetic clinic in your hospital, Mr. Busy Executive? You have a treat before you if you have not. The children attendants of this clinic are the wonder of even those who see them every week. Here is a little ten-year-old girl who glibly tells of sterilizing her own syringe and administering her own insulin twice a day. Here is another of twelve years who can prepare her own diet and knows more about carbohydrates, fats and proteins than most adults. Another of but nine years tells with pride concerning the diabetic candy which someone gave her for Christmas. The enthusiasm, intelligence and self-restraint exhibited by the group of juvenile diabetics in the hospital out-patient department represent a continual challenge to the average adult who is inclined to attempt to deceive the doctor by clandestinely eating forbidden foods.

• Unusual and unwieldy practices are not confined to the hospital of a century ago. There are institutions today that maintain traditions of inefficiency difficult to break. Hospitals are too fond of retaining their autonomy. But what of the institution that permits or even requires its surgeons to provide their own catgut, gauze and instruments? The administrative possibilities for discontent and discord which are inherent in such a practice can be easily imagined.

'Tis surprising, indeed, to know that so many institutions of rather unusual attainments still possess no department of anesthesia. In such the reward for referring a patient to a surgeon is likely to be the assignment of the duty to give the anesthetic to the referring physician. The principle underlying this practice is not entirely dissimilar to that of splitting fees. It may be remarked, however, that it often does appear unfair for the surgeon with a few dexterous strokes of the scalpel and a few equally skillful passes of the needle to earn many times the fee of the long suffering family doctor who has provided weeks or months of attention prior to surgical treatment.

It is a curious psychology which throws around the surgeon an atmosphere of supernatural mysticism while the community physician must content himself with the commonplace wielding of the stethoscope and the prescribing of drugs. Often an equal if not greater skill is required in the making of a clinical diagnosis than in the more dramatic manipulation of the surgeon.

• When the whirl of the propellers of a great transcontinental plane announces to the earthbound that one of these miracle birds is winging its way through the night, we are reminded that one who formerly carried trays on the private floor or bathed babies in the nursery is a member of its crew. Graduate nurse, perfect health, less than 125 pounds in weight, and twenty-five years of age, trim, businesslike, courageous and calm—this is the airplane hostess. And, lest we forget, she has already established herself as belonging to a class which when emergencies arise springs easily into the rôle of heroism. 'Tis a far cry from the grinding routine of floor or ward duty in the hospital to the more romantic rôle of nurse to those who ride the sky liners. And yet the same qualities of bravery and self-forgetfulness belong both to the nurse of the ground and the nurse of the air.

Looking Forward

What of the Future?

GROUP hospitalization plans continue to sweep the country. Every city in the United States with a population of over one hundred thousand either has a plan or is considering one. The membership in groups already in operation now numbers in excess of three quarters of a million and this is a mere beginning. The time is not far distant when it will be the exception to find a sizeable community without some form of group hospitalization in which a large percentage of its members participate.

What effect will such a widespread application of this new method of recompensing the hospital have on the institution? It cannot be doubted that such a development will exert a decided influence on the architecture of the hospital constructed a decade hence. Semiprivate accommodations will in all probability outnumber private beds. Whether any of those now using private room facilities will in the future elect to occupy semiprivate rooms on a prepay plan can only be a matter of conjecture. How many will pay an additional sum to be treated in a private room is also uncertain.

Present evidence is that more patients will move up the scale than down. Last year in the New York plan, 37 per cent of the patients elected to use private rooms. In the Minnesota plan, about 40 per cent use private accommodations. Many of these doubtless would have used semiprivate or ward accommodations if they were not protected by group hospitalization. Some perhaps would have gotten along without any hospital care.

During the past decade hospitals have been inclined to construct generous facilities for the private patient because here lay one of the institution's chief sources of income. The semiprivate suite often represented an afterthought. The future may reverse this policy. It is conceivable that large and commodious semiprivate facilities may overshadow the private room de-

partment. Moreover, if the income from the private room has been necessary to carry the load of free ward service, there must be a marked upward trend in semiprivate income or a reduction in demands for free care. Group hospitalization will probably cause both.

Group hospitalization, of course, is primarily a public service. Its success or failure will be judged by the benefit to the public—not the benefit to the hospitals. Nevertheless, those interested in developing group hospitalization plans should from time to time endeavor to peer into the future so as to get some idea of the effect on hospitals in general of a widely accepted plan of prepayment for hospital service. A long look ahead now is surely an act of wisdom.

The Nurse Specifies

TIME was when the private duty nurse was in fact a graduate who accepted gladly the doctor's call to assist in the care of the sick as a class. Then, time of day, location of the need, nature of the ailment, and personal admiration or lack of it for the doctor played little part in the nurse's promptness and willingness of response when the call came.

Alas, how times have changed! Consult any nurses' register for these details. Some accept cases during daylight hours only, others work only in hospitals, few look with favor on twenty-four-hour assignment, others spurn maternity patients. When from those available is subtracted the number who failed to leave a telephone number when going out and those whose wishes do not coincide with the doctor's needs, few if any names often remain on the register.

Small wonder the physician perhaps erroneously concludes that nurses do not desire hard or disagreeable work and are willing to accept only pleasant hospital or luxurious home assignments. The care of the sick is a twenty-four-hour, 365-day job. Holidays, time of day or

night, the condition of the weather or even a minor personal indisposition in no way justify indifference on the part of the nurse when the doctor asks her aid and the patient is willing to pay well for it.

Perhaps a part of the answer to her financial protection against the time when she can no longer work is the adoption of a persisting spirit of industry when opportunities to work present themselves. On the other hand, nothing has been here written or intimated to depreciate the service which many hundreds of willing skilled and ethically sturdy nurses are daily rendering to the sick. It is the slothful and frivolous minority which harms the professional reputation of a splendid majority.

Restless Employees

HOSPITAL employees are restless. From all parts of the country come reports that low salaries, lack of old age and unemployment insurance, unattractive living quarters, poor food, long hours and other unsatisfactory conditions of employment in some hospitals are creating discontent.

No hospital can be a safe haven for the sick and injured unless it has competent employees. Nor can a hospital expect to retain competent employees when its treatment of these employees lags too far behind that of industry. The time has now arrived when hospitals must face these facts, honestly and realistically, if they wish to remain firstclass institutions.

The joint committee of the three national hospital associations now has under consideration a plan for including all hospital employees under the old age sections of the social security act. Under the proposed plan the hospitals themselves would be exempt from the payment of taxes but their employees would contribute as other employees do.

This, the committee points out, is merely an extension of present practices. Income taxes and property taxes are not levied on charitable institutions but the proceeds from such taxes are used for functions which redound to the benefit of these institutions as well as others. The fire department will put out a hospital fire even though the hospital is exempt from supporting the department.

If the joint committee is successful in convincing government authorities of the wisdom of this policy, hospitals may well rejoice. If not, however, there is a growing belief that hospitals should come under the provisions of the Social

Security Act and pay the tax. For the present there is more interest in the old age pensions than in unemployment insurance.

Every hospital which is planning thoughtfully for its future will now take every possible step to restore all salaries to predepression levels, provide vacations, sick leave and health service to employees that is at least as good as that of industrial concerns, ensure good food in the employees' dining room and provide fireproof and attractive living quarters if it is necessary to house employees.

Furthermore hospital workers now usually consider that they are devoting their lives to hospital work. They rightly expect that they will obtain adequate training in their work and sufficient opportunities for advancement to make the future interesting to them. Hospital executives must study their personnel and fit the individual into the job for which he is best equipped. They must also study the organization of their personnel to be sure that lines of authority are clear and that opportunities for promotion are maintained.

Where is the money coming from to meet the necessary added costs? In considerable part it will come from increased income from patients. Other funds will come from a renewal of individual gifts and bequests to hospitals. Some improvements in personnel conditions can be made by administrative rearrangements without substantial increase in costs. Finally hospitals must be ready to appeal to their communities for increased public support. Certainly the community as a whole is now convinced of the necessity of meeting employees' requests for better living and working conditions. It is a good issue on which to raise money.

Pay of the Politician

AMONG political rewards appointments vary in magnitude from the portfolio of a department head to the position of a day laborer in the public works or street cleaning division. But the superintendency of a state mental or surgical hospital has never until now been considered as safe or legal political coin. Until now the care of the sick has been regarded as an endeavor deserving the best in training and in personal, ethical and moral equipment.

Alas, until now! In instances too many to enumerate high grade conscientious hospital executives have been sacrificed on the altar of partisan politics. Unsuccessful and morally uncouth individuals hungry for power and pelf

have demanded that the local tax supported hospital be turned over to them as a reward for demonstrated vote getting power. As a result the superintendent's phone is now answered by one unschooled in courtesy, untutored in institutional administration and even unable to recognize the need for agreement in number between a subject and its verb.

How long will this rape of the patient's right to good administrative and medical service be countenanced by a presumably enlightened community?

Medical Needs in California

Elsewhere in this issue *The MODERN HOSPITAL* summarizes the remarkable findings of a medical care survey, conducted in California in 1934-35 and included in very brief form in the report of a legislative committee of the California Assembly.

Here is a state with more physicians in proportion to population than probably any similar area in the world and with more than its proportionate share of hospitals and other facilities as compared with most of our states. Yet the survey showed that a large proportion of the population is not receiving needed medical or dental treatment in time of illness. The financial plight of many hospitals and the low income of many physicians give equal ground for serious thought.

Since this survey was financed largely through federal and state funds, the remainder having been contributed by the California Medical Association, it may be assumed that it will shortly be published in full. Hospital people, physicians and others interested in the problems of medical care will certainly wish to devote attention to its findings. (See page 70.)

A Brand of Disloyalty

DOES staff loyalty to a hospital include the utilization of the institution's diagnostic and therapeutic departments? Or shall the hospital offer such services to the physician without insisting that he make use of them. If the former query is answered in the affirmative then it immediately becomes incumbent upon the hospital to provide an excellence of service equal to that to be found elsewhere and to offer a rate card which competes successfully with that of other laboratories in the community. The answer to the latter question can be unqualifiedly

in the negative if service and fees compare favorably with others.

The spectacle of a staff man presenting to his colleagues a paper illustrated by x-ray lantern slides not prepared by the hospital suggests something is wrong. Only gross disloyalty and a desire to offer an affront to the hospital and its staff or a conviction that the x-ray department of this institution was inefficient and untrustworthy or its fees unreasonable could explain such an act.

Why will a physician accept a hospital position and profit by such an affiliation and yet wholly ignore any personal obligations which the occupancy of such a place implies? The solution appears rather simple. If specialty departments are so poorly staffed and conducted that they fail to command the respect of staff men then a radical operation is indicated. If skilled treatment and accurate diagnostic services are offered by the institution at reasonable fees then it appears perfectly fair to insist that they be patronized by the members of the visiting group.

An Impossible Task

IN EVERY realm of education there has been intermingled the didactic and the practical—the theoretical and the information which comes only by doing. To study narratives covering the experience of others is both necessary and effective in acquiring a competency of one's own. But to endeavor to learn experience—to rely only on the theoretical to acquire a competency is wholly futile.

This truism when applied to hospital administration implies that good executives are not made in classrooms—they but lay the foundation there for broader training elsewhere. The corollary of this statement is equally true. The richest of practical experience alone is incapable of fully preparing one for an administrative career in a hospital.

Herein lies the reason for the recent revival of the attempt to lay down a curriculum for the education of hospital administrators. He who offers himself to the institutional field after endeavoring to acquire experience vicariously is wholly unfit to meet executive responsibilities. While the preceptor system is not ideal, yet given a skilled teacher and an apt student an efficient executive is likely to be the result of this liaison. If such training could be preceded by a thorough classroom experience the aspirant to an executive position certainly would be said to have prepared for the practice of a real profession.

Field for Investment

By STUART M. CROCKER

SHALL our great system of voluntary hospitals continue under private responsibility and voluntary support or shall we yield to the counsels of despair and join those whose answer is "Let the government do it!" This vital issue will be decided by the present United Hospital Fund Campaign.

Hospitals will go on, under some auspices, no matter what we think and no matter what we do. You can do away with the police and perhaps be merely robbed. You can dispense with the fire department and perhaps lose only the building where you work or the home where you live. But you can't take away voluntary hospitals without taking away life itself.

Make no mistake: Somehow, under some auspices, these hospitals are going on, and, voluntarily or involuntarily, we are going to pay the bill, a bill that will be larger under public control, no matter how faithful and honorable our public officials. I believe that in the case of hospital protection you won't get as much for your money under public control as you are getting under private.

Three Sources of Support

Here is a necessary enterprise which, in the very nature of things cannot be self-supporting. Outside of taxes, voluntary hospitals have just three sources of private support: the generosity of our forefathers (and I for one hope never to see the day when the tax we pay for dying will put a stop to the enduring memorials our fathers have set up in the past as endowments for great institutions which work for humanity); income from patients, which as a whole falls far short of cost, and today's philanthropy, the current gifts.

Where does money come from for the gifts? Just one place — business. Where does it go?

The money that business makes goes four ways. First, it goes for the self-preservation of business itself, to reserves, to replacements, to improvements, and all those vital but often misunderstood essentials we loosely classify as overhead. Let the theorists say what they will, this is fundamental to the welfare of everybody.

Second, the money business makes goes as a

return for labor. While economists say that "wages lag behind," there is no more commonly accepted fact in America today than that leaders of American business recognize clearly that labor—from the desk to the ditch—must have its adequate reward.

Third, the money business makes goes through taxes to pay the cost of government: national defense, the postal system, legislation, the courts, police systems, fire departments, highways and all those necessities without which a society today would cease to function.

Fourth, the money business makes goes as a return to capital in dividends and in interest. Unless capital can be raised for the initial enterprise and from time to time thereafter, there can be no prosperity for business, no wages for labor.

By these four ways goes the money that comes from one source only—business.

Now I have been brought up on the business philosophy of Owen Young and Gerard Swope: that management is not the servant of the corporation, its share-holders, or its workers, but is a trustee for all three groups, plus another important group—the general public.

Such trusteeship in business has largely meant, to date, the constant working out of plans for the social betterment of the workers in a given company, but it has generally stopped there. To be sure, encouragement has been given individuals to play their parts in community problems, but corporations, as a whole, have hesitated seriously over the wisdom of taking too active a part.

However, it seems to me now, with the definition of where we are going in this country obvious to us all, that management may well include among these factors of trusteeship under the heading of "Relations With the Public," an intelligent, courageous and substantial support of social betterment programs which have to date been largely supported by private citizens.

In recent years the advancement of physical research in many fields has been given great momentum and support by corporate research. We have learned that great accomplishments in the

An investment with certain returns and no possible losses may sound a bit Arcadian. It isn't, however, it is a contribution to one of the country's voluntary hospitals.

field of physical research are made only when there are no restrictions upon investigation.

Frequently business in the pursuit of research has supported investigations in pure science within universities. Yes, even aided the research work of independent scientists. Many is the dollar which has been spent that can never be allocated to this or that machine which it sells.

All this has been done by corporations whose code of trusteeship includes a broad, courageous and comprehensive plan in the field of public interest.

I have spoken at some length concerning this matter of the great advance in corporate physical research, for the purpose of suggesting that possibly the time has come for consideration by the corporate trustees of this country as to whether that portion of corporate earnings which by law may be deducted might, in the interest of both workers and stockholders, be spent in the corporate support of great community services.

Certainly such expenditures could be justified in the public interest in these times. Obviously, the technique of administering such new research departments within business will have to be studied and created. However, I feel certain that the rules of the road and the best methods to follow can be charted with skill by the trustees of American business. Perhaps we can draw from the experience, the advice and wisdom shown in setting up great private foundations whose existence was made possible through their founders' large participation in the earnings of business.

When I say this I am by no means suggesting that corporations should enter upon a vague campaign of social service and general benevolence. I am suggesting for their executives and for their stockholders (scattered far and wide over the country) something far more concrete and practical. I am urging a course that in the long run may well mean for such corporations splendid return in the way of constant service rendered to them, as in the case of voluntary hospitals, and more than that, a great and increasing volume of good will for them.

Specifically, here are four reasons why corporations doing business in New York should give generously to the United Hospital Fund:

We hold that the community services of these hospitals are indispensable to an orderly community life in this great city and that an orderly community life is in turn indispensable to an orderly conduct of business.

More particularly, we hold that the community services of these hospitals are indispensable to the welfare of employees, their wives and their children.

We hold that by the new federal law on corporate subscriptions to essential community charities, the people of this country have formally approved the new principle that business should share directly in community responsibilities.

Corporations Must Pay Their Share

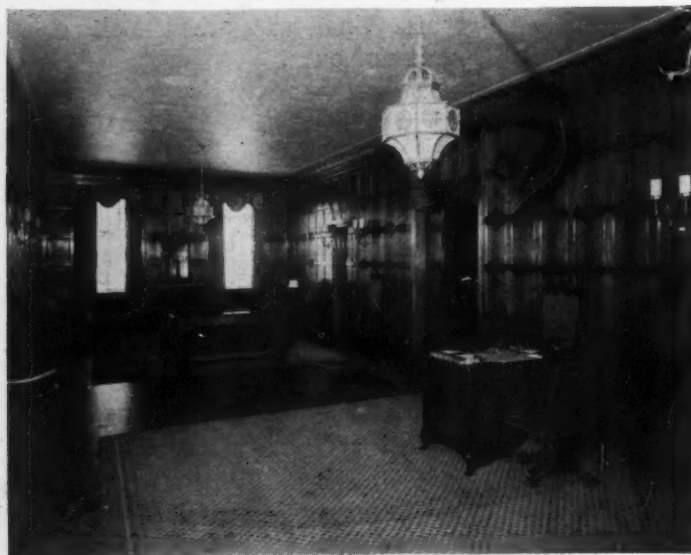
We regard it as obvious that corporations must pay their share of the load one way or the other, voluntarily or involuntarily, and that it is plainly in their own interest to share willingly, directly, publicly and generously.

In saying all the foregoing do we seem to be giving tongue to something unduly novel or radical? To that question, I believe your answer will be "no." We are simply trying to put this problem in a way that, if solved, will mean a still greater binding together of this whole great community of ours.

Let no man damn the government in one breath, and in the next breath say "Let the government do it." When he says that, he is denying the principles for which he professes to stand. Let no man say, "I cannot give because of taxes." If he fails to give to these things which the public demands his taxes will mount still higher.

Finally, with all considerations of practical wisdom, business wisdom, efficiency, politics or expediency aside, I should like to say that we who want to do this job in the way I have indicated, are seeking to give expression to a fundamental, basic trait in human nature—faith, faith in ourselves, our neighbors, business associates and all citizens in this great city.

The massive strength of the buildings and the interesting use of setbacks are well illustrated in this view of the emergency and general entrances of the Allegheny General Hospital. In the left background is the nurses' home.



The formality, dignity and quiet elegance of the paneled reception room for private patients exerts a soothing effect upon worried or bewildered patients. Side lighting fixtures are both decorative and useful.



There is nothing indicative of illness in the de luxe private room. The chintz drapes and armchair, the chaise longue, the red brick and white fireplace make a room almost anyone would enjoy.

Fifty Years a-Growing

By G. WALTER ZULAUF, M.D.

FOLLOWING a widespread demand by citizens for a hospital in the former City of Allegheny, now the north side of Pittsburgh, the first Allegheny General Hospital was incorporated in 1882. Funds were raised and two private dwellings acquired, converted into a single hospital building, and equipped at a cost of about \$60,000. The hospital was opened in 1886 with a capacity of fifty beds. During its first year 368 patients were treated.

The hospital occupied until recently was opened in 1904. It was built at a cost of \$880,000 and had a bed capacity of 405. During the life of this building so many advances were made in hospital planning, and it became so increasingly inadequate for the services required, that a new building finally was imperative.

Plans for the present new Allegheny General Hospital were started in 1926. In 1928 a public campaign was conducted during which more than 4,600 friends of the hospital pledged \$5,577,000

Allegheny General which began its ascent to glory in 1886 has finally soared to a brilliant finish, physically and metaphorically, with the completion of its \$8,000,000 building

toward the erection of a new plant, which at that time was expected to cost \$6,000,000. Construction work on the new building was started in 1929, but as plans developed it became apparent that the building as originally conceived would still be inadequate for the service it would be called upon to render. Enlargements, therefore, were made and the plans as finally developed called for a total expenditure of \$8,000,000.

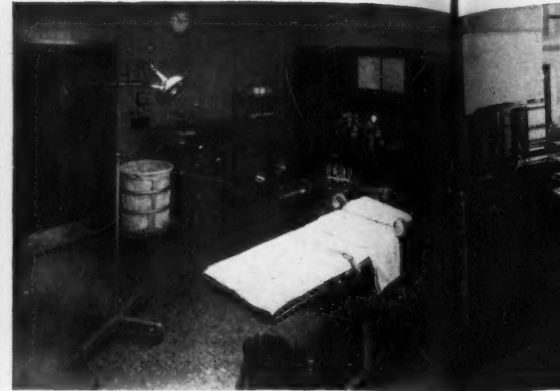
The task of completing the interior was started but had to be halted on November 1, 1931, as a result of financial difficulties growing out of the depression. Building operations were resumed in January, 1935, when the PWA loaned the hospital association \$2,000,000, with interest at 4 per cent



Central dressing room.



Children's solarium.



One of the operating rooms.

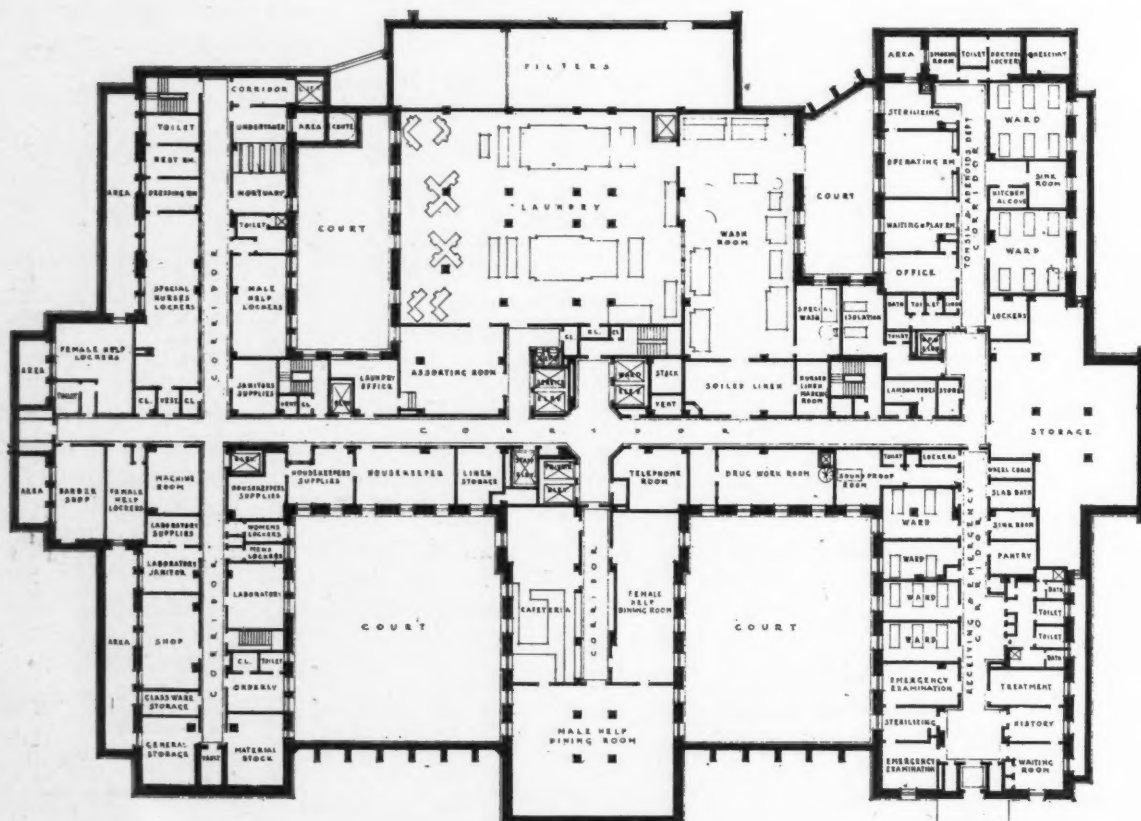
and amortized over a period of thirty years, for the completion of the structure.

The new Allegheny General is one of the few hospitals built to employ the principle of skyscraper construction. This type of design is ideal in that it meets a hospital's vital need for natural light and fresh air in every part of the building.

The site of the new hospital is an irregular plot facing North Avenue in the center of the block between Porterfield and Esplanade Streets. The

plot is 302 feet wide on North Avenue and extends backward approximately 600 feet to Hemlock Street where it is about 200 feet wide. It comprises about four and one-half acres and was acquired over a period of years by gifts from interested friends of the hospital and through purchases.

The main building is 300 feet above the street level and consists of a central stem 45 feet wide, 250 feet long, and fifteen stories high, exclusive of



Plan of the basement floor. The ward beds off the receiving and emergency corridor are primarily for the use of patients who are to be hospitalized from twenty-four to forty-eight hours.



Kitchen for private patients.

Solarium for private patients.

Drug dispensary.

a basement and a sub-basement, with its long axis running north and south. This central stem is surmounted by a tower containing five stories, the lower two of which are hospital space and the remaining a penthouse for ventilating machinery, elevator apparatus and the water tank. It is flanked on either side by three projecting wings, the middle one of nine stories and the other two of three stories each, to provide increased area.

The first floor of the main building occupies

one acre of ground, exclusive of courts. From the north end of the hospital a connecting passage extends approximately 165 feet to the nurses' home, a nine-story building 192 feet long, with its longitudinal axis running east and west.

The design of the hospital is based on the Lombard brick architecture of Northern Italy. This style lends itself admirably to the varied conditions of mass and fenestration.

The new building has a capacity of 600 beds, an



Plan of the first floor. Exclusive of its four courts, this floor of the hospital occupies one acre of ground. A 165-foot passage extends from its center corridor to the nurses' home, a 9-story building.

increase of 50 per cent over the bed capacity of the old hospital. All departments will be able to care for a proportionately larger number of patients, and with this splendid new structure the hospital will be able to perform a wider and more effective community service than was possible under the limitations of the old buildings.

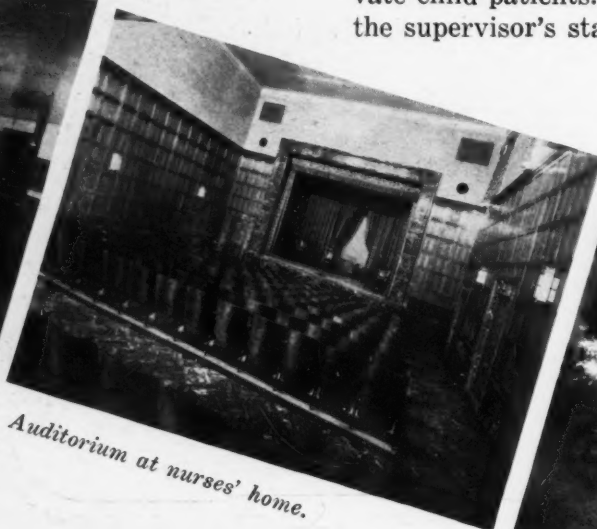
Size, in itself, is not nearly so impressive as the greatly increased efficiency in operating that this building will make possible. Departments are so arranged as to permit unobstructed access from one to the other between those related in service.

Easy access is had from this unit to two large deck spaces overlooking the park at the south end of the hospital. The north stem contains the observation unit, in which new patients are kept during the ordinary incubation periods of the common childhood communicable diseases. Just to the north of this observation unit, but carefully segregated from the remainder of the floor, is an isolation department, intended primarily for the care of patients whose infections originate within the hospital.

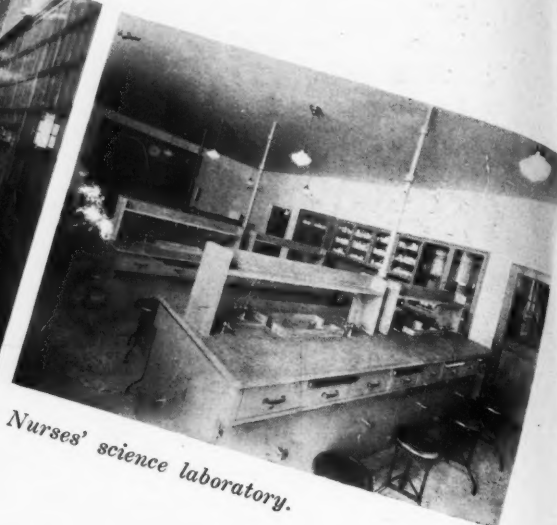
The east wing is the medical department, with eighteen beds divided into three wards of six beds each, separated into cubicles. In addition to complete service facilities there is a subsidiary nurses' station. In the west wing are ten rooms for private child patients. This section is controlled from the supervisor's station in the main lobby and is



One of two main kitchens.



Auditorium at nurses' home.



Nurses' science laboratory.

Unrelated departments are segregated from each other, but all departments have free access to the general services of the building. This arrangement will permit an economy in time and effort.

The power plant is in a separate building on the east side of the hospital, connected by passageway with the sub-basement. Complete independence of public service supplies of light, heat and power is thus secured. This will prove of special value in the event of such occurrences as Pittsburgh's recent great flood. Should the hospital's own power plant fail, the public utilities would automatically continue the supply of light to both emergency and general operating rooms.

The first floor containing any large group of patients is the children's floor. It has seventy-six beds and in reality is a complete children's hospital. The south end is devoted to the care of orthopedic and surgical patients, in two twelve-bed wards and several smaller units. It has complete facilities, including a subsidiary nurses' station, pantry, dressing room, workrooms, toilets, an enclosed solarium with wall murals and a kindergarten room and classroom.

separated from it by means of glass partitions.

The sixth floor is for ward surgical patients. There are ninety-eight beds, each separately screened for privacy, grouped into four sections controlled by a supervising nurse's station and three subsidiary nurses' stations.

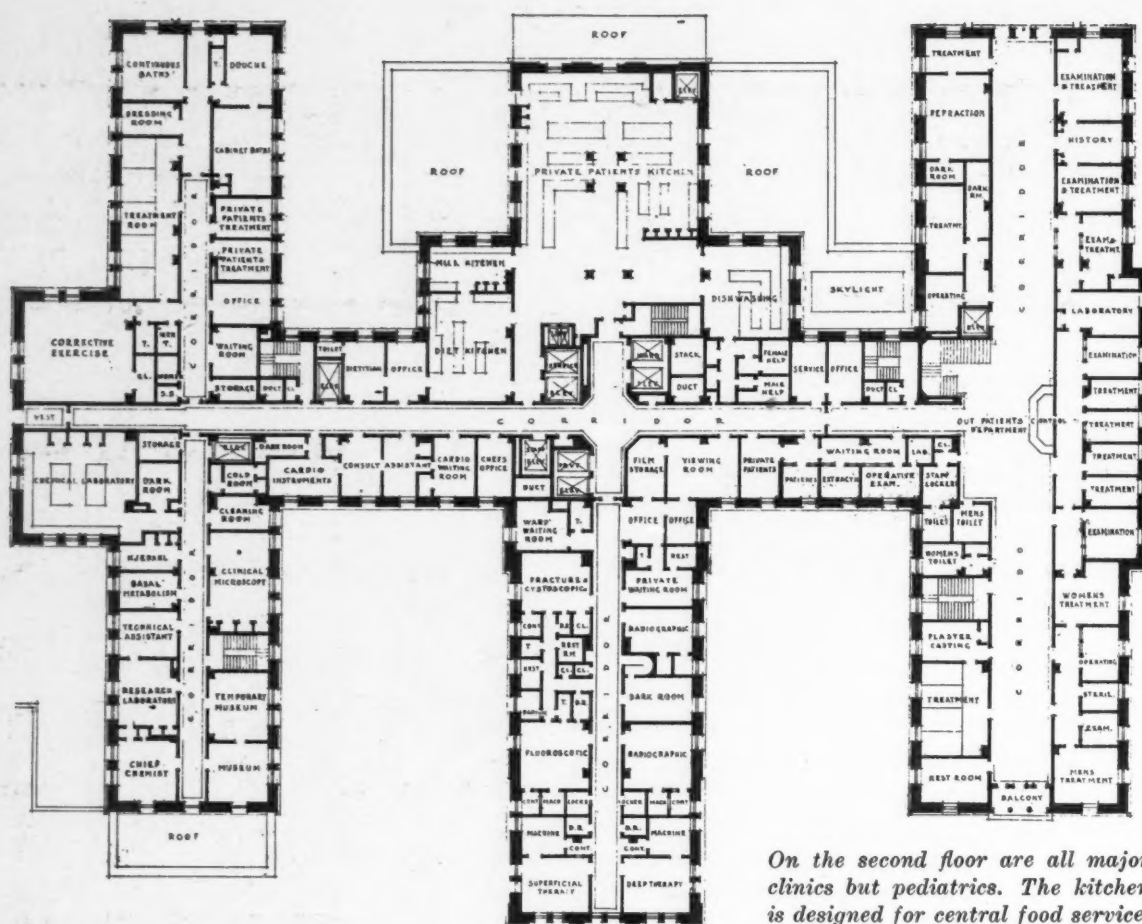
The fifth floor is for general medical patients and architecturally is essentially the same as the sixth floor, with the exception of a metabolism unit in the east wing for the care and study of special diseases.

The operating floor is located between the ward and semiprivate rooms and the private rooms, making it readily accessible to either group of patients.

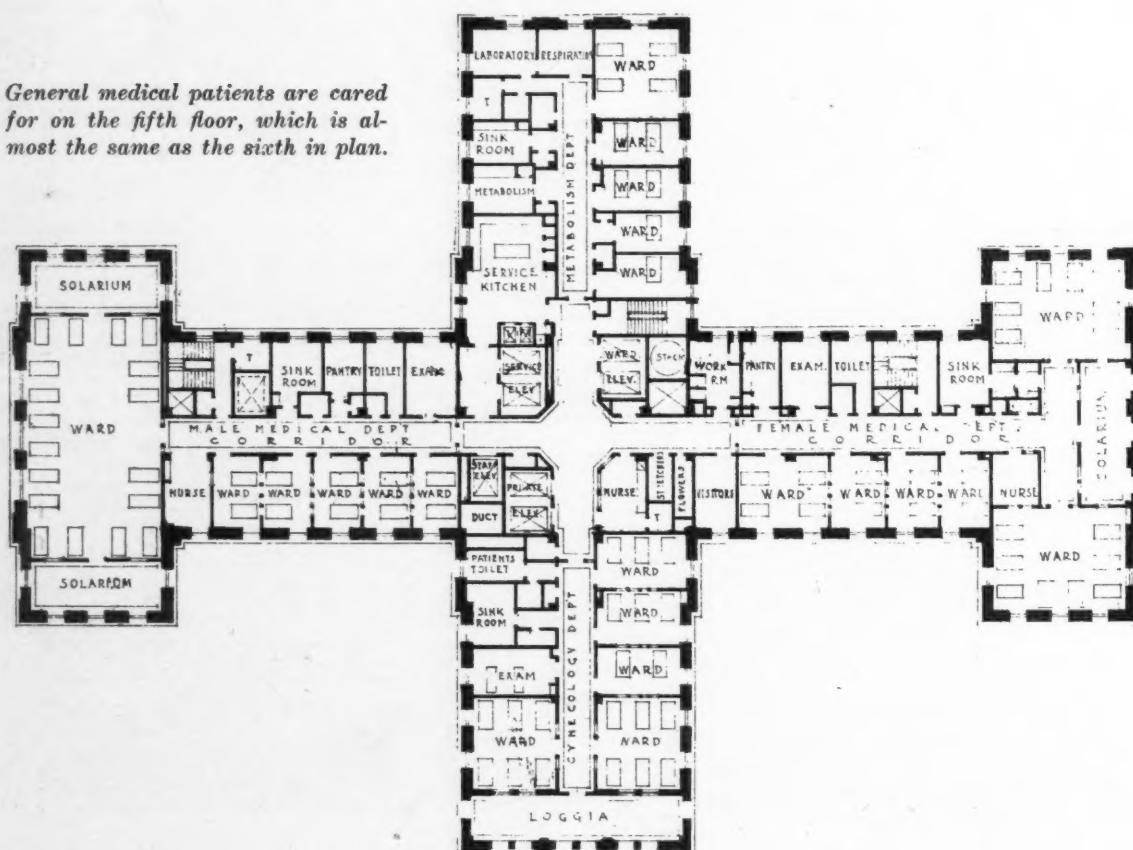
In the west central wing is a library primarily designed for use as a medical newspaper or journal library, subscribing to over eighty of the lead-

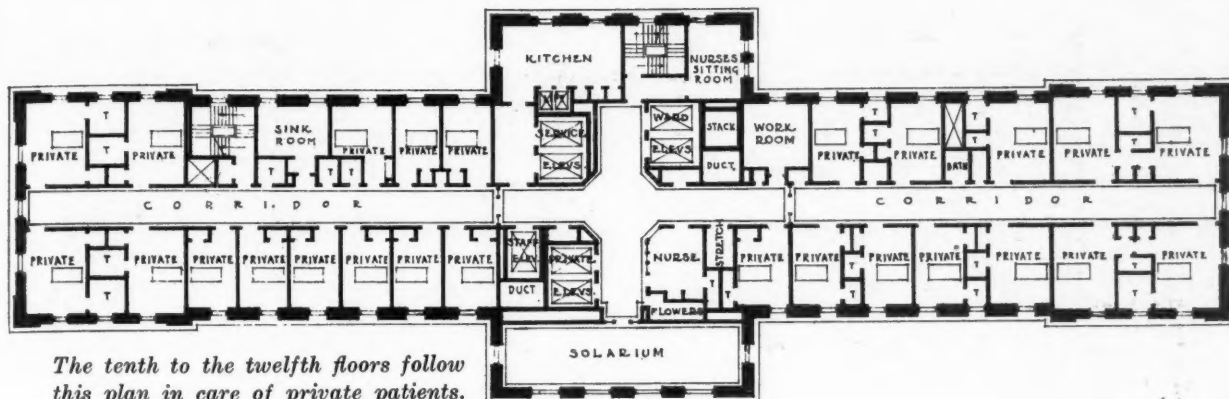


The main entrance opens on a handsome porte-cochère



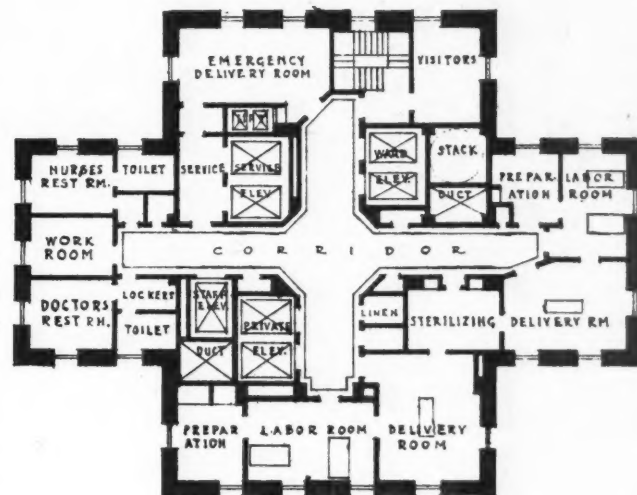
General medical patients are cared for on the fifth floor, which is almost the same as the sixth in plan.



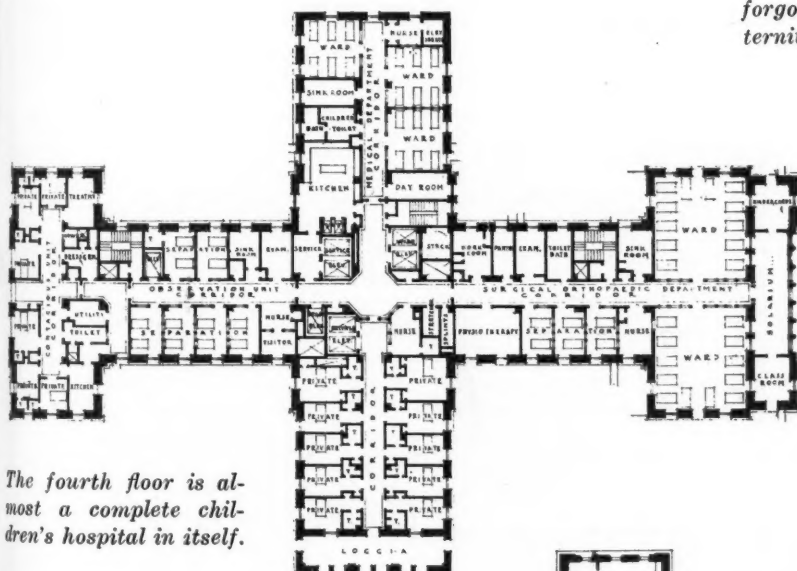


ing technical publications in the fields of medicine and surgery and their allied branches. In addition, it houses a complete medical and surgical library of over 5,000 volumes, and the nucleus of a patients' library. Directly opposite, in the east central wing, is an assembly room for medical conferences with a seating capacity of 100.

Private rooms are located from the ninth to the sixteenth floors inclusive, in what is for practical purposes a separate section of the building. Approached through the private patients' entrance in the west central wing on the main floor, it is accessible by separate elevators to private patients and their visitors without their crossing the paths of other patients or hospital activities.

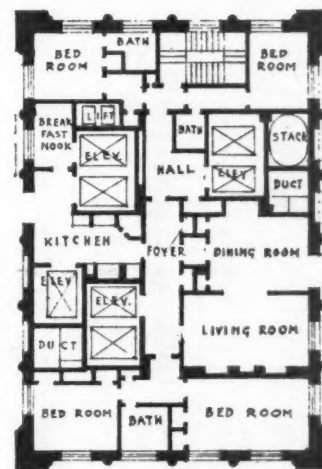


Expectant fathers have not been forgotten in plans for the maternity department, 16th floor.



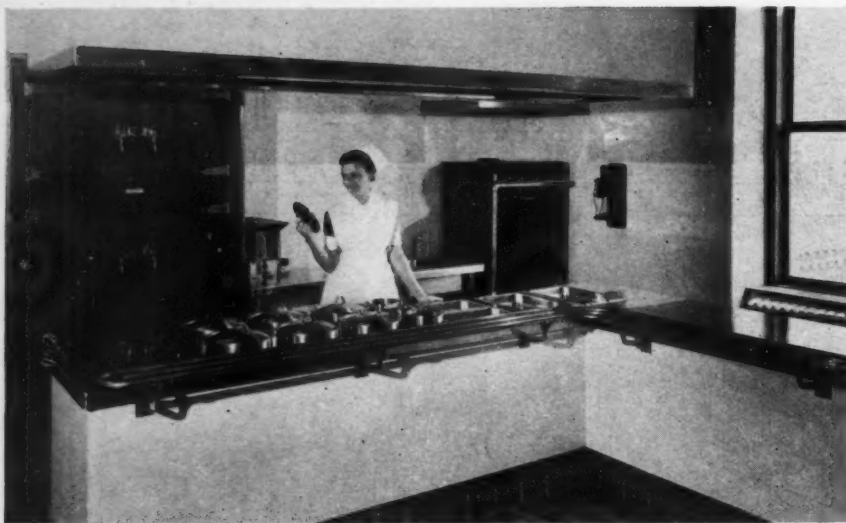
The fourth floor is almost a complete children's hospital in itself.

A suite on the seventeenth floor for the hospital superintendent.



Operating rooms are on the eighth floor (right) where they are equally convenient for private, semiprivate and ward patients. Also included on the floor are a journal library and an assembly hall.





Steam tables are of stainless steel as are the eight electric food conveyors shown on the right.

The William H. Singer Memorial Research Laboratory is a competently staffed, practically independent, but closely cooperating research institute owned and controlled by the hospital. It is operated on a separate budget and has its own endowment funds. At the former site, the laboratory occupied a separate building, but in its new location it is an integral part of the main building, carefully planned and with modern equipment. The Singer organization will continue to furnish laboratory work for the hospital's patients and to conduct medical research.

A pneumatic tube system, comprising thirty-two stations, is the communicating link between the various departments and the supervising nurses' stations. Clinical records, requisitions and mail may be sent via the system, with a consequent saving of much time and effort.

Dial telephones are in use throughout the building. A complete automatic intramural telephone system was installed.

Each bed, in addition to nurse's call and convenience outlets, has a three-channel radio system, the central control of which is in a room off the main corridor of the first floor. Ear phones, modulated loud speakers, with volume controlled from the central station, or radio pillows may be used.

Over seventy double panels are located in corridors and throughout the main building in strategic places for calling doctors or personnel. Actually, a double system has been installed, each panel providing for 120 different three-digit numbers. In one panel the numbers flash in red for the medical staff and in the other in white for the administrative staff. Six different numbers, three in each panel, can be flashed consecutively until released at the control board when the person called answers.

Furnishings for the new hospital and nurses' home were ably done under the direction of J. Barnet Phillips, interior decorator, 101 Park Avenue, New York City. The helpful psychologic effect on the patients, visitors and personnel of attractive surroundings as well as the beauty, utility and cost of the various items chosen were the dominant factors in guiding the interior decorator in his planning.

Careful thought was given by the architects and the hospital authorities in selecting a type of construction which would facilitate easy maintenance and achieve maximum comfort for patients. York and Sawyer, New York City, were the architects and Dr. S. S. Goldwater the consulting hospital expert. Much credit is due them for the creation of the plans of this splendid new institution.

The Architect's Share

The architect plays a vital part in the planning and construction of a hospital, and should be appointed in the earliest stages of the development of the project, according to a paper delivered at the annual conference of the Incorporated Association of Hospital Officers, London, by Captain J. E. Stone, secretary of the Birmingham Hospitals Centre, Birmingham, England.

He must not only be thoroughly familiar with the technique of general planning but also of hospital work and progress, and he must remember that he is not building for people in normal health, but for those in sickness. The building of a hospital, Captain Stone pointed out, is not a one man job, and in developing his plans the architect will need to work in cooperation with the consulting engineer, technical and special subcommittees composed of physicians, surgeons, specialists and matrons, and an administrator.

Consequently, architectural competitions should be out of the question. One architect should be appointed to do the job, but if it is decided to hold a competition, then entrants should be limited to architects of high standing who have had actual hospital planning experience.

There Once Was a Board

By RAYMOND P. SLOAN

THERE once was a hospital board, which as hospital boards go, functioned with distinction. No more than the usual number of complaints were received of alleged discourtesies, inaccuracies and breaches in medical procedure, and the populace was satisfied to the extent that any populace is satisfied, with its hospital service. If its plain brick exterior was not regarded with any overwhelming sense of pride by the townsfolk, it was at least not looked upon with forthright suspicion—one through whose portals friends and relatives walked, only to be shoved eventually out the rear, supine and cold.

Little was known of the actual workings of the institution, except that there was a manager or superintendent who was manifest on occasion, and a mysterious group of "trustees," so-called, whose precise function no one thought to investigate. They comprised what was referred to with reverence as "the board." They came and went, but for the most part they came and stayed until death settled the argument for once and all. Invariably they passed in an aura of glory—"A loss to the community—one who had served the hospital faithfully for twenty-five years as a member of its board." Likely as not, too, when the anxious family had laid hands on the will another notice appeared in the local press, "Bequest to Hospital. Under the will of the late John Doe, the Community Hospital receives \$10,000."

For the Privileged Few

It wasn't everyone, of course, who could attain the distinction of belonging to the board. That was for the privileged few, whose lighted homes on the hill could be detected through the murky haze enshrouding the railroad junction—the "big shots," head of the mill, president of the bank, owner of the lumber yard and the local barrister who handled their simple affairs, for affairs were simple in those days, comparatively speaking.

A room on the first floor of the hospital was provided exclusively for them and their associates—a great spacious room with a faint musty odor about it. In the center stood a long walnut table around which carved armchairs upholstered in black leather were spaced precisely. Here is where they met the first Tuesday in each month

under the vacant staring eyes of old Jeb Larkins and his wife Sara, whose portraits hung side by side on the wall. A metal plate beneath announced the fact that Jeb was the hospital's first president. Mrs. Larkins was there to provide balance and for purposes of decoration. Everyone to his own taste. She was identified merely as Mrs. Jeb Larkins.

No One Was Cheated

There were twenty board members in all, but except on special occasions, and they had to be very special, not more than ten or twelve chairs were occupied. Some there were indeed whose faces were rarely seen, but their names carried with them weight and power. Sufficient that they lent them for the prestige they supplied. That in itself was a gracious gesture. Affiliation with a hospital, in turn, marked them as leaders in the civic life of the community, benefactors, philanthropists, to say nothing of strengthening their social position. So no one was actually cheated.

To a small inner circle of not more than three or four fell the actual responsibilities of carrying on the work of the institution. These were the actual workers, men with the time and the desire to serve. Conscientiously they consecrated themselves to the task of administering to the needs of the community, always with an eye to the by-laws as laid down by Larkins and his co-workers and the financial statement as presented regularly and frequently reluctantly by the superintendent.

They performed efficiently for the most part, considering what little knowledge they possessed of the broader aspects of hospitalization. It was the predepression period, however, before social problems had begun to cast their shadows before them and labor started to gain control. It is hard to imagine this confident little group, for example, faced with urgent demands from the local hospital workers' union. We had not yet entered on the era of collective bargaining. What walkouts there were took place at the mills down town and were still walkouts and not "sit-ins."

In those golden days, too, deficits were not mat-

ters of such grave importance. It was a privilege enjoyed by this select group to rally to the aid of their hospital. In such emergencies they fulfilled each and every obligation as a member of the board. Checks in substantial amounts transformed red into black, and who of us cannot recall the thrill of witnessing the laying of another cornerstone. Golden days indeed!

Hats off in reverence to that board which functioned so successfully in the days that used to be! Reminders of its good deeds and numerous gratuities remain graven on bronze tablets in hospitals the country over. True gentlemen and aristocrats who magnanimously served for the public good and with just honor to themselves!

Fresh Air and Fresh Faces

Who serves on the hospital board of today? Let us look down the list of names and note the changes that have taken place. Let us step into that room on the first floor and watch the proceedings. Is it true or merely our imagination? The old musty odor is gone and a fresh invigorating breeze sweeps through, causing even the portraits of Jeb Larkins and his wife to appear just a bit awry. Some of the names have a familiar sound, sons and grandsons of the founders and former trustees, but others are new and strangely foreign. Faces appear fresh and younger and the whole atmosphere is charged with new spirit. What has happened? Plenty. Yet only a start has been made.

Through long hard years of economic strain and duress we have struggled to find ourselves faced with a brand new set of problems affecting the status of the voluntary hospital and its immediate and future service to the community. Many of these problems center about the board, for it becomes increasingly evident that the strength of the hospital is and will be determined by the strength of its board—the ability of each individual member to contribute, not money alone and prestige, but constructive ideas and wise council based on firsthand knowledge not only of present day hospital needs, but ever changing social attitudes. Hospital service is steadily developing and assuming new responsibilities of medical, surgical and social significance. It can only achieve its potential power, however, if trustees keep pace.

It is no longer sufficient that our board member be born and reared on the right side of the railroad track. The voluntary hospital, if it is to survive, must be of the community and operated by and for the community; not run by the privileged few for the benefit of the general public. As important as it is to acquire for it sound financial and social backing, provision must be made

to assure the populace a voice in its management, thus keeping in step with the trend of the times. The goose that laid the golden egg has long since died of starvation. Hard and persistent scratching in every backyard is required today if the red on the ledger is to be changed to black.

Consequently we find new names on the board and new faces as the first Tuesday of each month rolls around. There are more faces, too, although no change has been made in the by-laws to increase the number of trustees. From this we can safely infer that the meetings are better attended. Why is this?

The first answer is that our trustee of today is being made and must be made to realize his obligation to contribute something to hospital affairs. He is appointed for one of several reasons. Because through business or professional affiliations he may be able to render valuable service in unraveling legal tangles, in promoting a public relations program, in solving engineering problems or handling investments and financial routine. Because of the need for a certain amount of window dressing. And this is not to be decried. The presence of a name on the board may carry sufficient weight to warrant its inclusion, even at the sacrifice of personal service. Because he is a representative of the people, or label it labor, if you will. What better intermediary between employer and employee should differences arise over labor problems?

The second answer lies in the fact that the character of the meetings has changed since those halcyon days. Instead of consuming valuable time reading reports which may be distributed either in advance or at the meeting, a program is arranged which possesses educational value. The trustee, if he is to function competently, must be well informed, his interests developed to the point where he will voluntarily delve into hospital affairs and participate in health problems.

Participation Is General

On occasion his attention is invited to such operations as the dietetic department, the importance of satisfactory food service, food in its relationship to modern medicine, special diets, food clinics and such. The hospital dietitian plays an important part in the program and possibly some outside authority is invited to contribute. A tour of inspection of the dietetic department is included, with special displays arranged to illustrate the various procedures such as setting up the trays and the preparation of special dishes. At another time the meeting is devoted largely to the activities of the out-patients' department, showing the effort made in checking the patients' financial

standing, the records kept of every visit, and the general procedure followed. A brief talk by the doctor in charge serves to acquaint those responsible for operating the hospital and the function of this particular department. Each department in turn offers opportunities for educating the board in hospital routine.

Then there are meetings thrown open to discussion of broader phases of medical and surgical service. To what extent can and will the hospital participate in the campaign to stamp out or at least to reduce venereal diseases? How active is this clinic? A report from the medical man in charge proves enlightening and paves the way for sound expansion and development.

The subject of group insurance deserves careful investigation. What are its benefits to the hospital and where is it leading? If the hospital is a member of some such service, the individual in charge is invited to explain the plan in detail to the board members. It cannot be taken for granted that they know these things. If no such organization has yet been formed, what steps can be taken to assist in formulating one? Surely there is no question of its need.

The part played by the superintendent in such modern procedure has been deliberately omitted for the reason that we are concerned chiefly with the board. A board that is intelligent on hospital affairs and cognizant of the many complexities ensures successful management. It selects its executive director only after due deliberation.

The competent administrator for his part will make every effort to plan a campaign to interest the board member and enlist his cooperation, knowing that in so doing lies the road to success.

The hospital trustee of today is being urged to interest himself more and more in hospital affairs outside his own institution, to participate in meetings of local hospital councils, to check with the trustees of other institutions, even to travel to state hospital association meetings where he engages in the discussions and round tables and makes a tour of inspection of the exhibits with his superintendent. It is necessary only to follow the rapid growth of trustee attendance at meetings of the annual conventions of the American Hospital Association in recent years to find ample proof of this statement. In so doing the board member acquires new interests, broadens his acquaintance and is brought in direct touch with new social trends. He becomes a hospital contributor in the true sense.

Yet only a start has been made in this transformation of hospital trustees. On the first floor of many a hospital throughout the country today is a spacious room set aside for their exclusive use—a room from which the faint musty odor has never been completely removed, where on the first Tuesday of each month they gather—the privileged few—under the vacant staring eyes of old Jeb Larkins and his wife Sara. But they are carry-overs; their world belongs to yesterday—not today.

Air Conditioning in India

American administrators would think they had air conditioning problems indeed, if any of them had to face the difficulties that are experienced by the Lady Willington Hospital in Lahore, India.

"The conditions in this part of India," wrote the medical superintendent recently, "consist of violent extremes. In the winter zero degree C. is frequently recorded at night—during summer, that is, from May to September, shade temperatures vary between 80 and 120 degrees F.

"Our air conditioning plant, the first in India, is installed in a block consisting of two labor rooms, two operation theatres and all attached rooms such as sterilizing, washing up. The plant is used for cooling, heating and ventilating. I stipulated the following conditions: Air currents should not be sufficient to blow out a match flame; a patient should be able to lie in comfort and without fans; operators and assistant should be able to work in an atmosphere of comfort and without perspiring.

"Our plant has the following advantages:

"Adequate ventilation and suitable temperature which enables us to work for long hours even during periods when the shade temperature is 120° F. without a feeling of fatigue.

"It provides rooms where postoperative pyrexias can

be treated. Our cases of postoperative hyperpyrexia, common during summer, are now practically nonexistent.

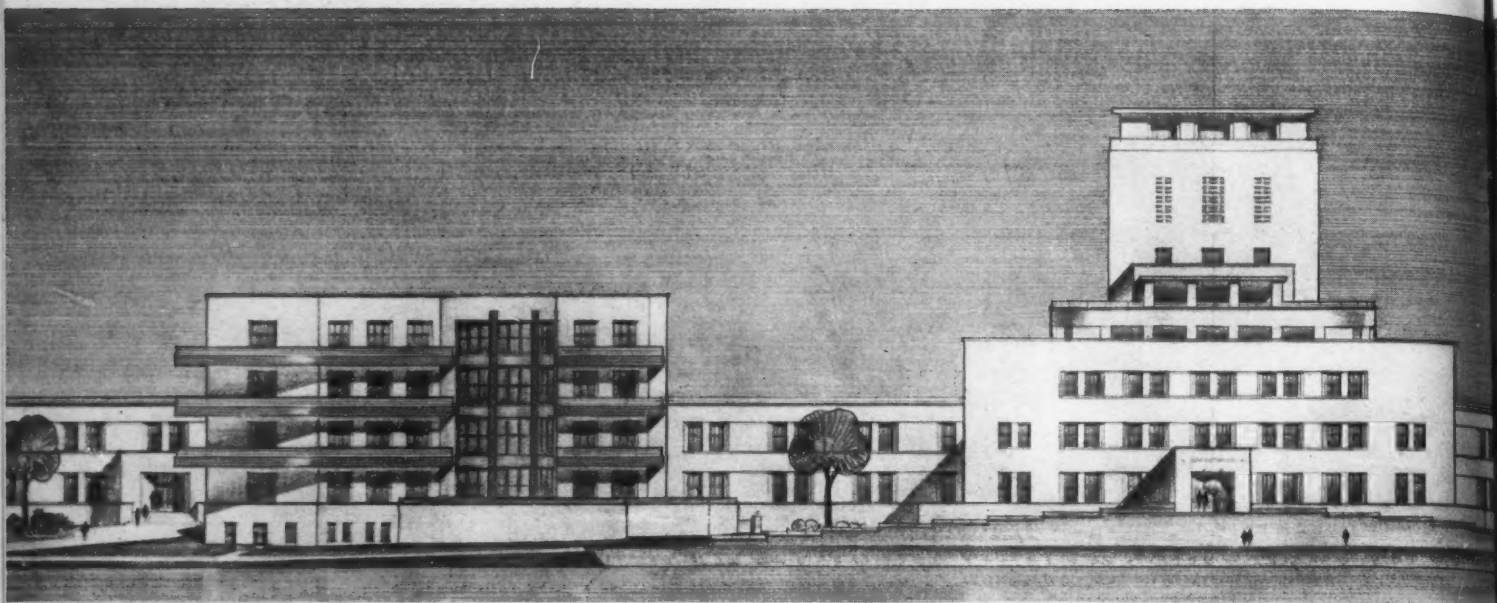
"Pyrexia in the newborn, extremely common during summer, immediately responds to removal to a conditioned room.

"Financial stringency prevents us from having the wards conditioned. If funds were available I should certainly have every room and ward conditioned.

"The system consists of a very large enclosed tank fitted with sprays through which water is forced and atomized. Air is drawn through the tank with the sprays working, and is then blown through ducts to the various rooms. Return air passes through a second set of ducts. This is the evaporative part of the plant.

"During the rainy season, when the humidity is high, the refrigerator plant is in use. By means of an ammonia compressor and special coils water is lowered to a very low temperature. It is then forced through the sprays of the above tank. Suitable thermostats regulate the temperature and humidity of the air to be delivered. In winter the first process is used and the air is heated in the ducts by means of special radiators."

This system, which was installed in 1931, provides 36 tons of refrigeration. The air conditioning equipment was made by American firms and was installed by an American engineer. The plant cost approximately \$22,500.



Welfare Hospital will house New York City's chronic patients.

The Fruit of Research

By ISADORE ROSENFELD

THE 1,500-bed hospital for chronic diseases which is the subject of this article is the first tangible result of agitation, research and educational work which have been carried on for a period of years by agencies and individuals largely under the leadership of the committee on chronic illness of the Welfare Council in New York City. The committee's studies revealed the haphazard and often tragic way in which chronic illness has been dealt with and prompted the formulation of a constructive program.

The project to be known as Welfare Hospital is one of many in a long term program for the development of municipal hospitals in New York City which was initiated in the administration of Mayor Fiorello H. LaGuardia, under the direction of Dr. S. S. Goldwater, commissioner of hospitals. It is also part of a comprehensive scheme of development for Welfare Island. This island has hitherto been shared by the Department of Hospitals and the Department of Correction. The correctional institutions have been demolished and their sites will be occupied by hospitals and auxiliary institutions. Thus the entire island will become hospital territory.

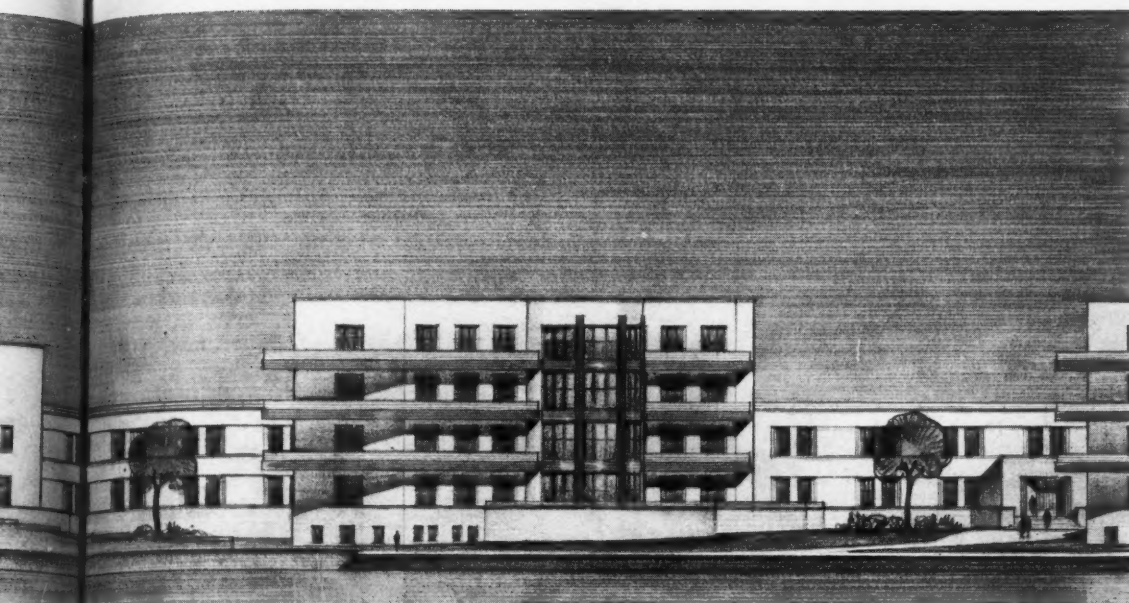
The buildings housing the present hospitals on the island are on the whole old and out of date. It is, therefore, anticipated that ultimately the entire island will be rebuilt. The current develop-

ment of Welfare Island may be regarded as the first installment of a comprehensive plan covering the whole island. The current work consists of a central nurses' residence, power plant and Welfare Hospital.

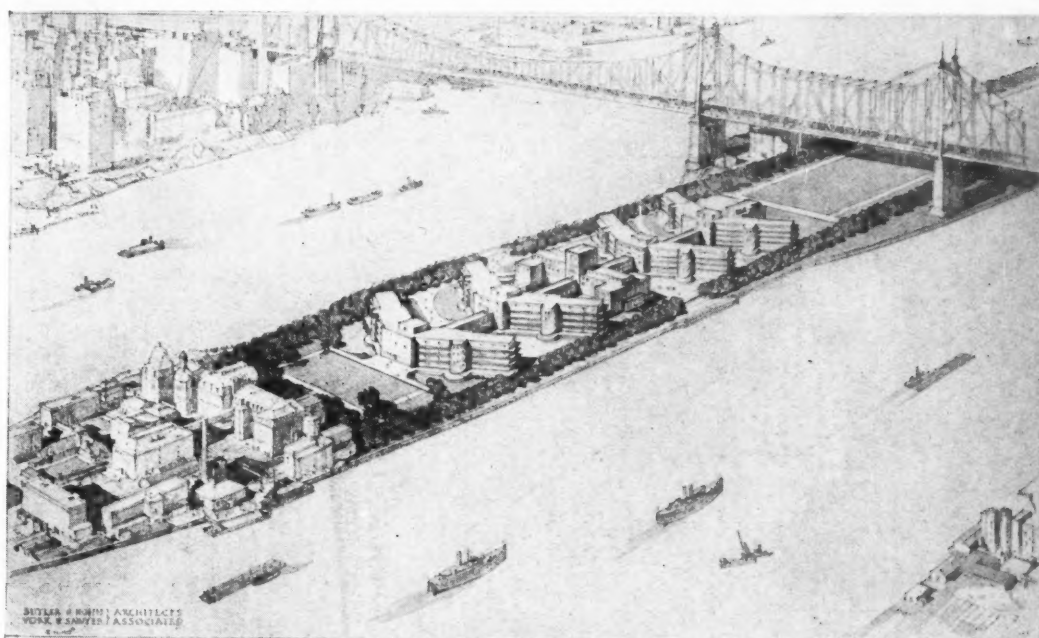
The central nurses' residence will house 605 nurses. It is intended to serve not only the Welfare Hospital but other institutions on the island and is planned for future expansion. The power plant is designed to take care of the needs of the central nurses' residence and the Welfare Hospital. It too is planned for future expansion calculated to replace ultimately the several boiler plant units scattered over the island. Under the present plan the nurses' residence, power plant and the hospital are connected by a tunnel providing continuous walking passage as well as pipe space. In the ultimate development this tunnel will be continued throughout the length of the island.

Turning to the hospital proper, the purpose here is not primarily to describe it but rather to explain the principles in accordance with which it was developed. The odd shapes of the buildings and the manner in which they are disposed are frankly unconventional and raise questions as to the reasons why they were thus disposed.

The problem was to design a hospital for 1,500



Perspective of chronic disease hospital on Welfare Island, New York City. The hospital's bed capacity is 1,500.



adult patients, men and women, suffering from chronic illness. The report of the committee on chronic illness of the Welfare Council recommended

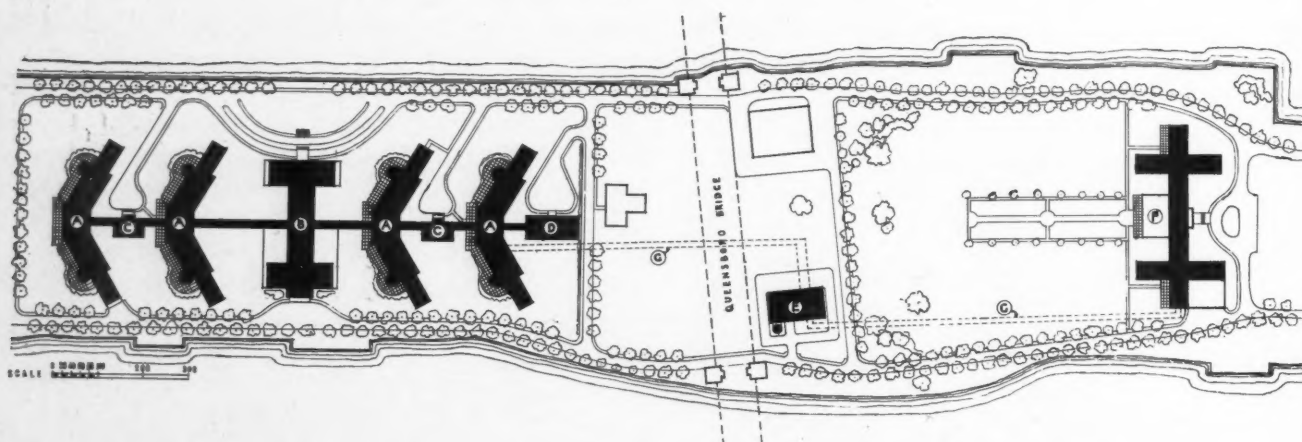
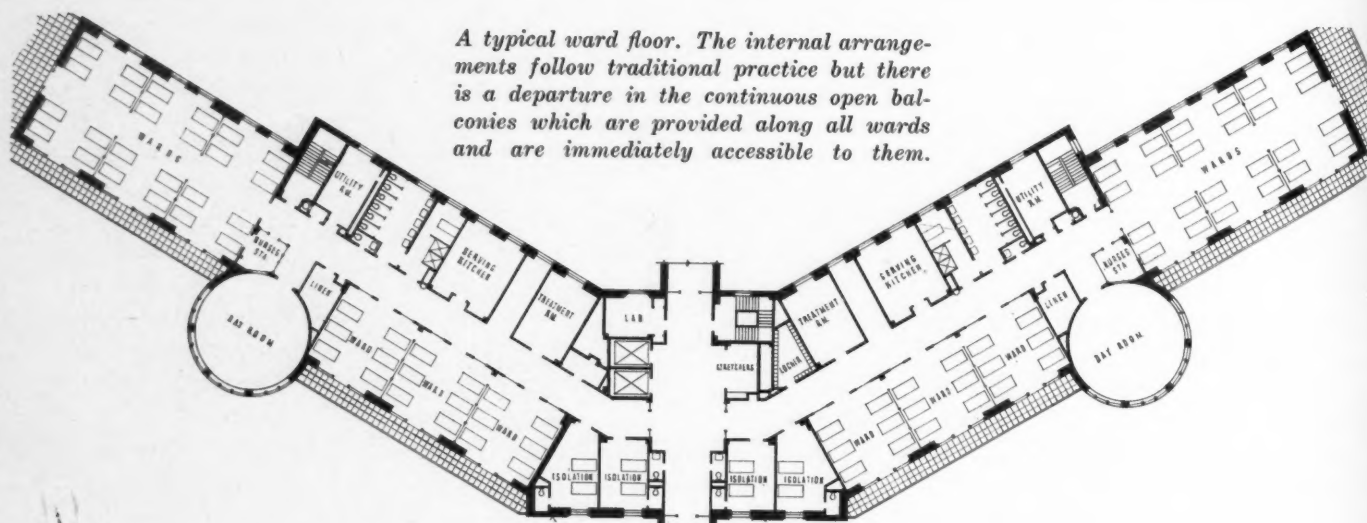
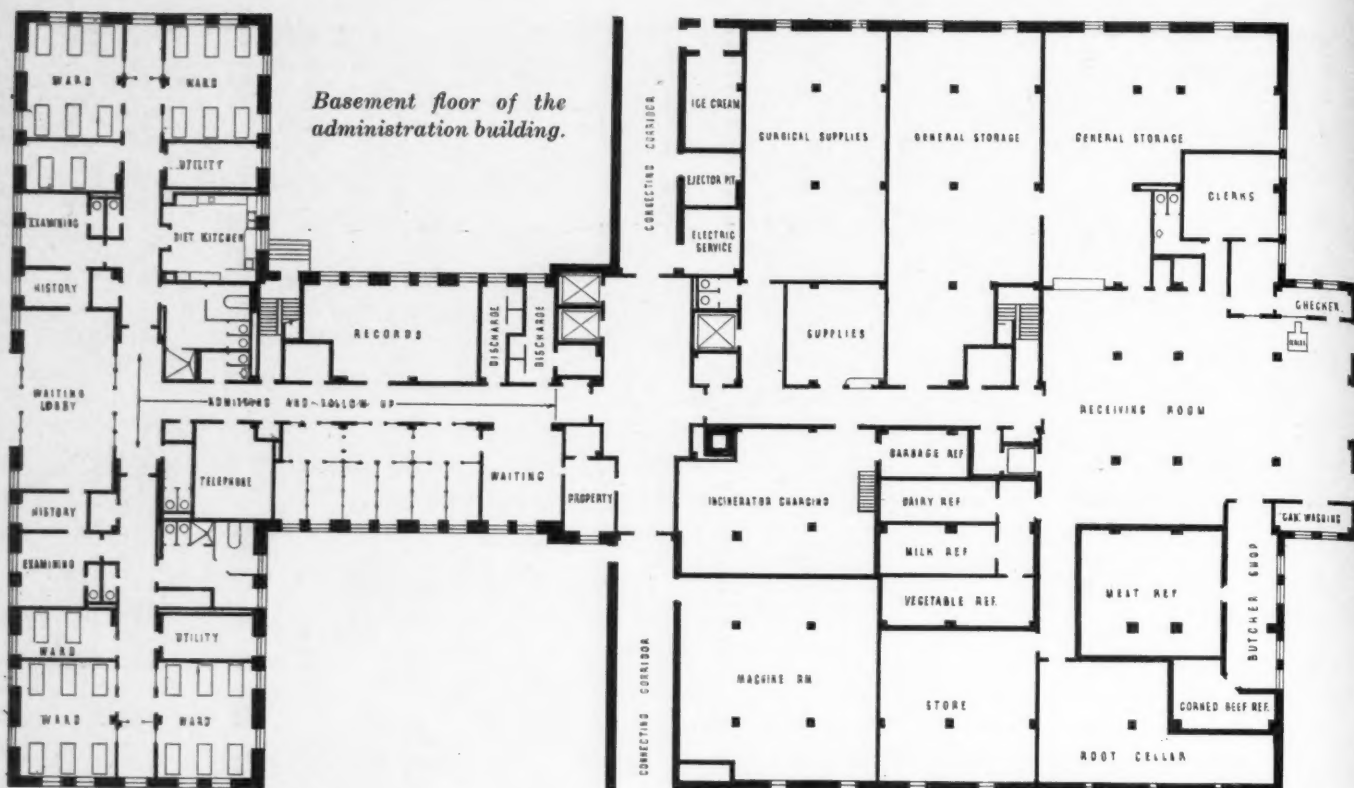
that the type of patient considered should preferably be housed in low buildings, because chronics are frequently ambulant and freedom of the grounds for such patients is considered to be of therapeutic importance.

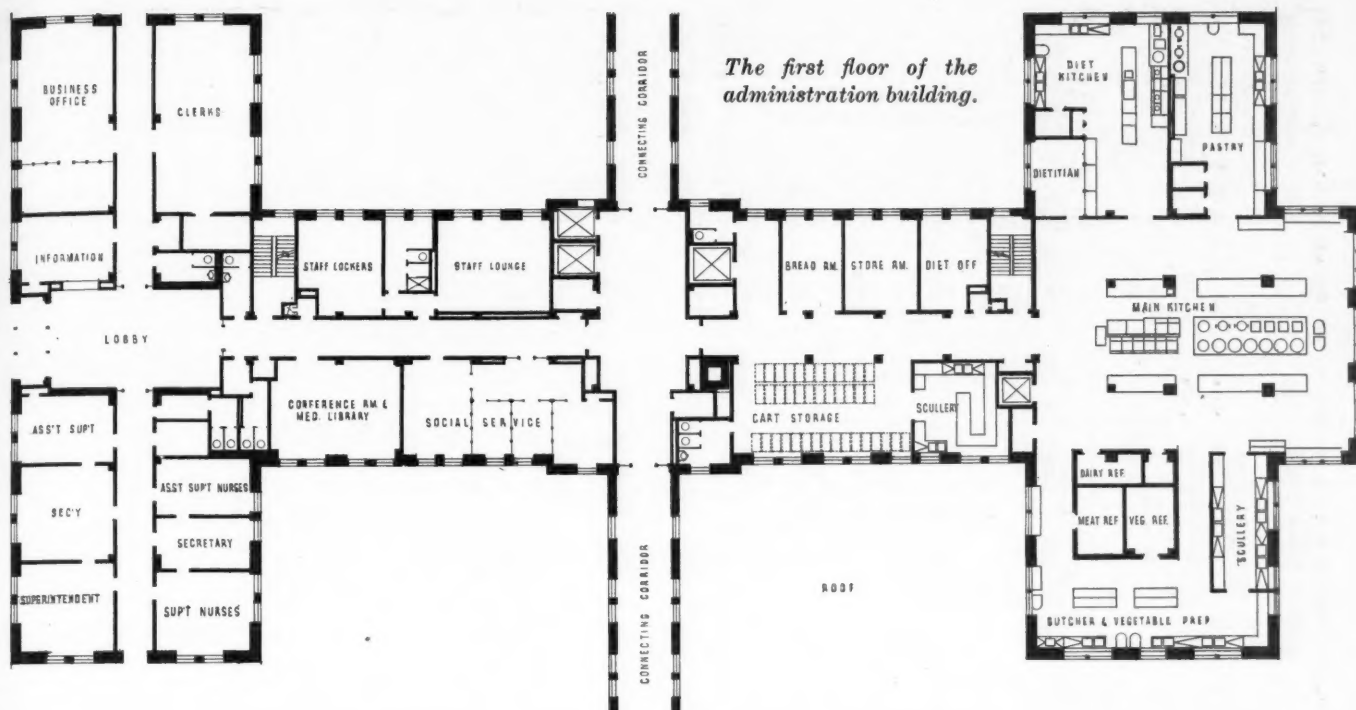
Two-story buildings at first considered were deemed uneconomical. As experience indicates that about 50 per cent of the clinical classifications which are intended to be treated here are generally ambulant it was decided that it would be consistent with economy and the needs of the patients to erect four-story buildings. By virtue of this, 25 per cent of the patients would be on the ground floor and another 25 per cent within reach of the grounds by means of one flight of stairs. Further justification for this decision was based on the provision of balcony facilities immediately

accessible from the wards at the various stories.

The second assumption made was that the buildings should face south for obvious reasons. As the island runs approximately north and south, the buildings were placed with their long axes east and west. The physical limitations of the width of the island minus the space required for marginal roads left a cross-island dimension of about 400 feet within which buildings could be placed. A study of a straight line cross-island unit revealed that such a unit could house about ninety-two patients per floor. At four floors per building it was found by simple arithmetic that four such buildings would provide for the total required number except those who would be in the admitting units.

A study was then made of the administration





The first floor of the administration building.

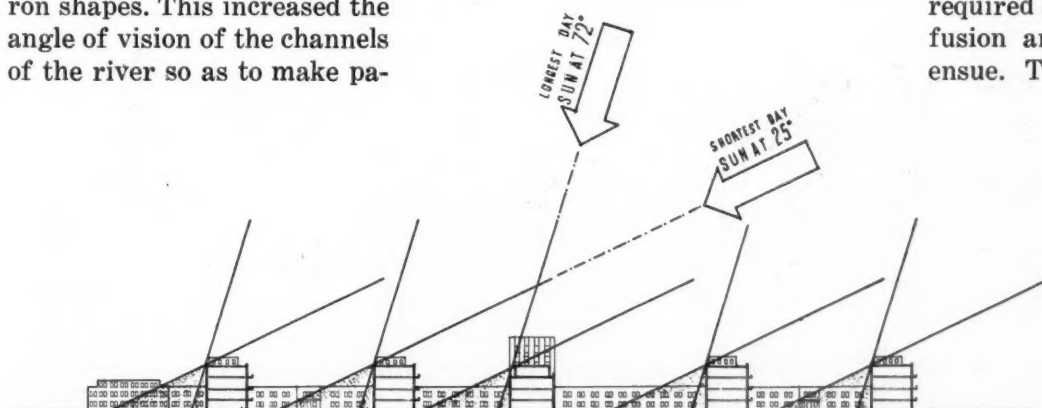
building to house the admitting unit for patients, receiving department for goods, administration, diagnostic and treatment facilities, the kitchen and dining facilities. For convenient accessibility, it was decided to place this unit in the middle with the patients' pavilions north and south of it. Space had also to be provided for a laboratory building. When these were laid out in diagrammatic form, it showed that within the space available on the former penitentiary site there was sufficient light and air around the buildings and that even on the shortest day for this latitude the buildings would not cast shadows upon each other.

This, however, was considered not completely satisfactory because under this scheme the patients on the south face of one building would be looking into the service portion of the building in front of them. Furthermore, this plan would have given insufficient view of the two channels of the East River to the east and west. To overcome these difficulties, it was decided to break the straight line units into chevron shapes. This increased the angle of vision of the channels of the river so as to make pa-

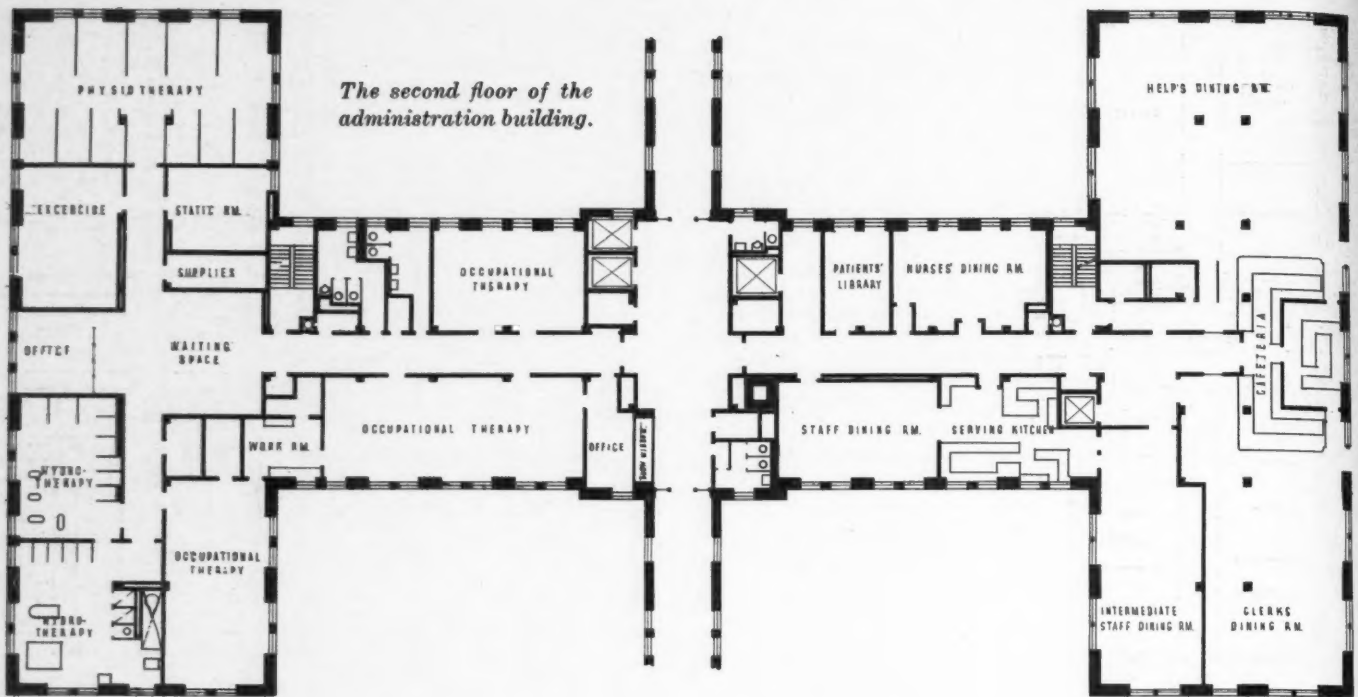
tients feel that they are facing the river rather than facing the back of a building. In this maneuver a longer sun exposure day was achieved. Whereas a straight line unit has an exposure of 180° , the chevron shape, which deviates from the straight line by 30° , gives a sun exposure of 240° .

In the general planning special consideration was given to the problem of proper circulation. It was assumed that patients, doctors, people on business and visitors to patients would enter the hospital group from the west road and that service deliveries would be made from the east road. Patients are admitted into the two admitting units in the administration building for diagnosis and from there distributed to their respective wards by the various elevators in the several pavilions.

Experience in the city hospitals shows that 1,500 patients would receive about 3,000 visitors per visiting period. If these were admitted through the administration building, extensive waiting room space would be required and considerable confusion and congestion would ensue. The visitor would en-



Buildings do not cast shadows upon each other.



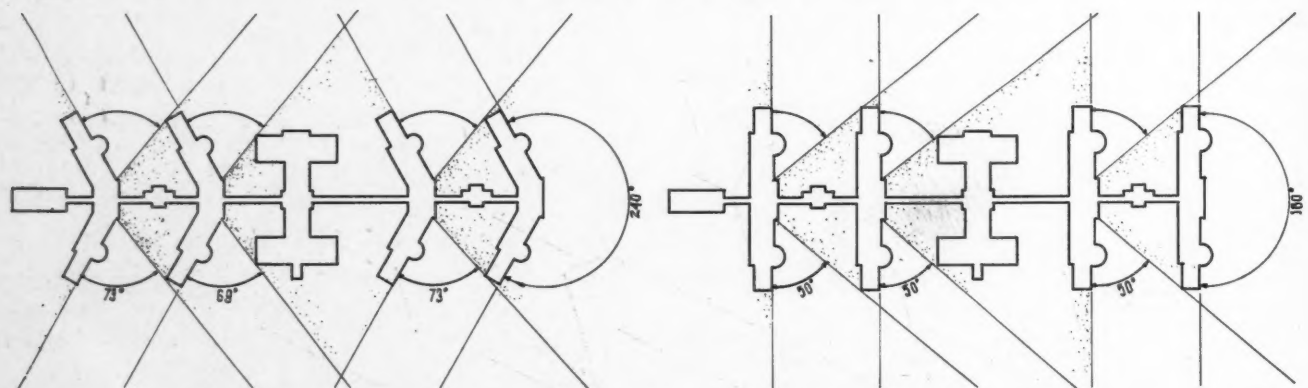
counter difficulty in finding the proper ward which would cause difficulties in control. For these reasons it was decided to establish two visitors' entrances between the pairs of pavilions. This arrangement involves short travel along the corridor to the nearest ward pavilion.

The point of delivery is on the east shore and the lines of distribution to various buildings are along the basement corridor.

The connecting corridor is comprised of basement and two stories. From the point of view of circulation the ideal thing would have been to have the corridor four stories or the same height as the ward units. This, however, would have been needlessly expensive. At least during warm weather the roof of the connecting corridor is an additional means of lateral circulation on the level of the third story. An examination of the circulation diagrams should reveal another important principle in circulation—that all through

communication is along the connecting corridor which cuts the various buildings (except the laboratory) on the short axis. The various ward units and services, including the laboratory, form culs-de-sac. In other words, in this scheme, we have a main thoroughfare off which there are branches which feed the various working units. In this manner comparative privacy and quiet are achieved in each unit.

This hospital is unique in its general plan and disposition of parts. It is based on strictly functional planning, which means that in disposing the parts the first consideration was given to the peculiar needs of chronic patients and administration. This involved the problems of circulation, control, orientation, view, ample ground space. No concession was made to any preconceived notions as to arrangement that would produce a beautiful picture or pattern. The arrangement presented here is frank, honest and straight-



A comparison of two schemes. Left, the building as designed, with wings at an angle; average angle of unobstructed vision, 72°. Right, alternate scheme, with wings perpendicular; average angle of unobstructed vision, 50°.

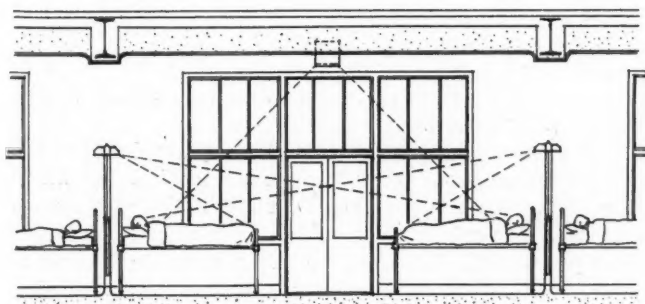
forward. It was reasoned that if all the parts were arranged in an orderly manner meeting the functional needs, the result would have esthetic wholesomeness. The illustrations bear out the correctness of this assumption.

The fact that the administration building does not follow the pattern of the ward buildings might be disconcerting to an architect steeped in the Beaux Arts tradition. Studies made with the idea of giving to the administration building a shape similar to that considered ideal for the ward buildings failed to meet the needs of the administration building. For this reason no concession was made to the thought of a uniform pattern.

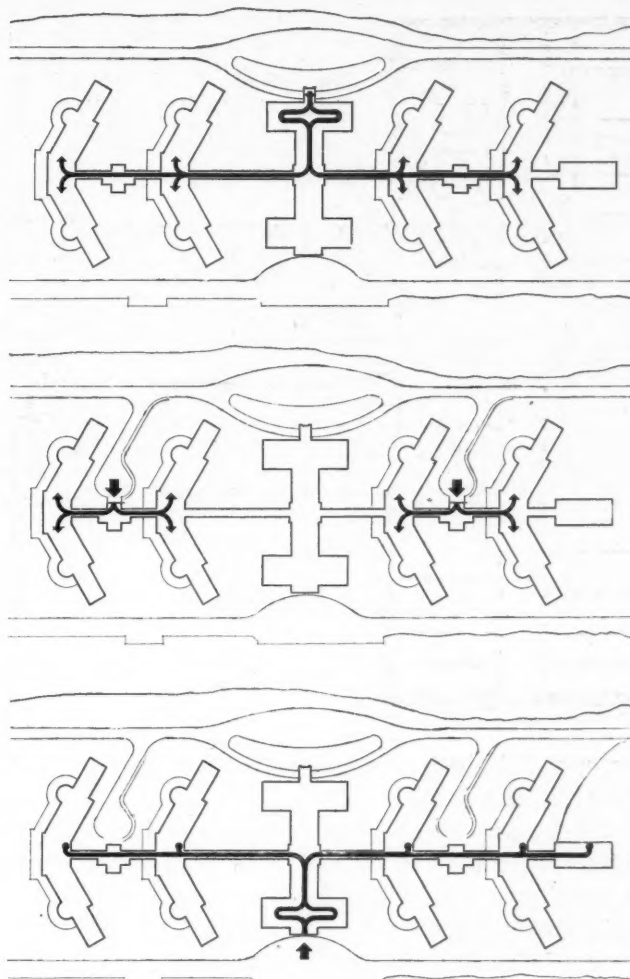
In its individual parts, this hospital can hardly boast of any departures of radical character, although there are features, too numerous for consideration in this article, which perhaps show some improvement over common practice. The following departures may be worth mentioning.

The ward units in their internal arrangement on the whole follow traditional American practice but present a departure in the manner in which porch and deck facilities are provided. In the traditional hospital there are often enclosed porches accessible from the wards and out-door facilities provided on roof decks. The experience of this department shows that in crowded city hospitals the porches are usually occupied as wards and the decks above are little used because of the extra personnel required in taking patients to and from the roof.

In the present instance, continuous open balconies are provided along all wards and immediately accessible to them. To prevent shading of the wards by the projecting balconies, the story heights were made 13½ feet from floor to floor. Third-story patients have in addition direct access to the paved roofs of the connecting corridors. On the first floor, there are broad terraces sufficiently large to accommodate most of the anticipated ambulant patients in each ward building. The terraces are connected by easy ramps with the grounds, which will be attractively landscaped for the convenience of the patients.



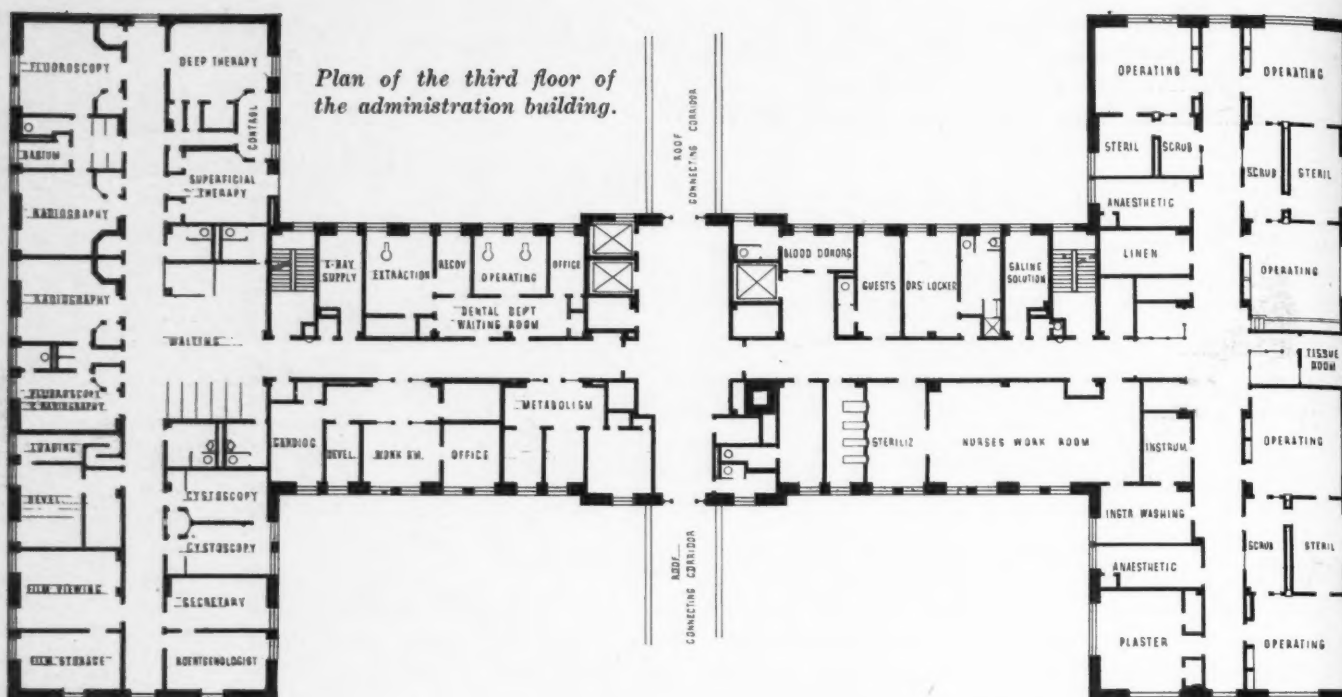
Scheme for ward lighting.



Circulation diagrams showing how traffic is regulated. Top, patients; center, visitors; below, service.

The common practice in ward lighting has been to use direct light suspended fixtures. Bedside lighting has been considered a luxury and when installed it has been usually either a somewhat unsightly and not always happily placed wall bracket or a portable type light attached to the bed. The difficulties with portable bedside lighting are well known and are accentuated in a large public ward and the suspended ceiling fixtures are glaring and fatiguing. When the ceiling fixture is the only source of light, it is usually so situated with reference to the patient that in reading the reading matter is in shadow.

In this hospital general lighting is provided from fixtures built-in to the ceiling. The view of the source is concealed by vertical metal louvres. This eliminates direct glare. On the partition back of each bed there is a fixed hooded reflector individually controlled and calculated to illuminate the entire bed. This is considered a proper arrangement for reading as well as for examination of patients. The reflectors are so designed that persons lying opposite each other cannot see the



source of light in the reflector. Here again direct glare is eliminated.

There are many chronic patients in city hospitals intended primarily for acute cases. Experience shows that when chronics are treated along with acute patients, the medical staff is naturally more interested in the acute patients with the result that the chronics suffer comparative neglect. Under such circumstances medical knowledge of chronic diseases has not made the progress that it should. In this hospital every provision is made for chronic patients both from the point of view of nursing care and scientific treatment and research. The cooperation of medical schools has been promised in the organization and conduct of the clinical service.

At the top of the administration building, there are two stories for the housing of resident medical officers. On the second floor over the visitors' entrances, located between ward pavilions, demonstration lecture rooms are arranged with waiting facilities for both patients and students. Each ward has a demonstration treatment room. On each floor for every pair of nursing units there is a routine laboratory. Each ward building has two or more offices for the teaching personnel where conferences may be held between students and clinical directors. The laboratory building provides extensive facilities for routine and research work. Provision has been made for expansion of research facilities in the basement of the ward building nearest to the laboratory building. This story is a basement in name only as the north, east and west exposures where the labora-

tories will be are almost entirely above ground.

The work of occupational therapy is amply provided for in the several shops on the second floor of the administration building. In addition two industrial rehabilitation shops are provided in the basement story of ward buildings. Due to the crowning terrain of the island these two shops are also entirely out of ground and will have ample light, air and view of the river.

Research was conducted and preliminary studies were prepared under direction of Dr. S. S. Goldwater, commissioner of hospitals, by Isadore Rosenfield, his research assistant in architecture. The architects of the projects are Butler and Kohn, York & Sawyer, architects associated. Dr. Mark L. Fleming functioned as chairman of the department's planning board. The architects for the nurses' home are Morris & O'Connor and for the power house, Starrett & Van Vleck.

Food Service Space Requirements

The average general hospital provides 24.7 square feet of kitchen and associated storage space per bed, to judge by data from seventeen general hospitals in various parts of the country presented in the thirteenth edition of *The Hospital Yearbook*.

The actual figures varied from 16.4 square feet per bed to 33.4 square feet. One psychopathic hospital for which data were gathered (but not included in the above average) provided only 9.3 square feet of kitchen and storage space per patient. Data are also given regarding the number and size of pantries, the number and size of dining rooms, and the total size of the main kitchen, the diet kitchen and the storage space.

In Case of Flood

A few succinct, valuable notes on what to do during and following a flood that should be included in every administrator's handbook

By H. ELDRIDGE HANNAFORD, A.I.A.

IN ANY major flood, such as that recently experienced in the Ohio Valley, there are three periods or cycles, each carrying its own particular problems:

1. Continual rise of water which gradually affects all parts of the city either directly or indirectly through the overloading and failure of essential public utilities such as gas, electricity, water supply, food deliveries and traffic in general.

2. The high water period when the crest has been reached and a gradual subsidence follows. During this period everyone merely marks time and waits, insofar as taking care of buildings is concerned. Precaution must then be taken to guard against fire, looting, contamination of buildings and equipment and the outbreak of typhoid or other epidemic diseases.

3. The clean-up period following the recession of flood waters and the resumption of normal operation of essential utilities.

With specific reference to hospitals, the various situations arise and must be met as follows:

1. As the Water Rises.—During the period of rising water, whether the hospital is in an area apt to be flooded or not, the strictest economy should be exercised in the consumption of fuel, electric current, gas and water.

- a. Cut down on all nonessential fuel demands, such as heating public spaces, offices and service rooms that can be shut off. Use your fuel where it will do the most good for vital services only.

- b. Conserve electric current. Use only one bedside light in patients' rooms, only night lights in corridors, no light in the public waiting room and the minimum amount possible in all other sections of the hospital. Reduce elevator service to the absolute minimum, using only one elevator, if possible. Use no electrical appliances except those vitally necessary to hospital technique.

- c. Use gas as sparingly as possible and only for such essentials as boiling water to make it fit for use, sterilization and cooking.

- d. If the city water supply is in danger, anticipate the shortage by filling all bathtubs or other containers to act as reservoirs in the event of a complete shutdown of the water system. Lock up and cut out of service as many toilet rooms as possible, particularly those used by the visiting public. Prohibit the sending of flowers to patients. With no water flowers will prove a tremendous nuisance. Cut down to a minimum, and if possible eliminate, all laundry work during the period of the emergency. Reduce dishwashing requirements by the use of paper plates and cups. Line bedpans with heavy paper and dispose of their contents in open latrine trenches which may be treated with chloride of lime or periodically burned out with oiled straw or paper. Treat all water, no matter for what use it may be intended (except that for flushing toilets) by boiling at least twenty minutes before using or by chlorination.

Plan a Retreat

2. If Forced to Vacate.—Do not be so foolish as to hope for a recession of the waters and wait until the last minute, when forced evacuation will be attended by great confusion. Have a program of retreat ready so that when the emergency arises it can be put into orderly effect.

When finally forced to abandon the building clear the patients first and then use the vacant patients' rooms, particularly on the upper floors, to store such drugs, supplies and equipment as cannot be saved by moving to a new location.

Cut off all gas and electric current at the street source. Pull all boiler fires and be sure that fire boxes are cold before leaving the premises. Eliminate, if possible, all fire hazards, including those which may be developed from contact with water such as generation of gas from carbide or spreading of stored gasoline on the waters.

Lock up and barricade as securely as possible

the entire building. Remember that looters breed like vermin under emergency conditions.

3. After the Waters Recede.—a. As soon as the building can be reentered make a detailed inspection as to its physical condition. Look particularly for wall cracks, walls pushed out of plumb or line, evidences of settlement due to undermining by water, general breakage or other damage.

b. Clean out slime, mud and débris as quickly as possible by flushing with water and pumping.

c. Whenever weather conditions permit, open up the entire building and allow it to air dry as far as possible.

d. Flush out and refill boilers and build very slow fires under them to dry out boiler settings properly. Bear in mind that these settings, if of masonry, are completely soaked with water and a hot fire will flash the absorbed water into steam and explode or seriously crack them. Blow out the entire heating system with steam to remove all slime deposits and carefully check and clean all valves and traps.

e. Drain and flush out all water heaters, domestic water storage tanks, plumbing lines and fixtures, allowing the water to run through the entire system until no more sediment shows. This flushing will also automatically indicate leaks which may have developed in the plumbing lines.

f. Carefully clean sterilizers and other equipment with steam and make sure that all are in perfect operative order and in a clean condition before attempting to use them again.

g. Take down, clean and dry all motors or other

electrical equipment which has been affected by flood waters.

h. Remove all wet wire from conduits, dry out the conduit system with compressed air and pull in new wiring.

i. Repair or replace all other damage such as that done to doors, cabinet work, plastering, paint, hardware, furniture.

j. Carefully check over supplies of drugs and canned goods and throw away all excepting those in airtight containers. The containers should be carefully washed with pure water before being used and all vegetables such as potatoes or other tubers should be thoroughly washed in clean water before cooking. As a general rule very little salvage results from the above supplies once they have been subjected to flood waters.

k. Continue to boil all water used for drinking and cooking, for at least three weeks after the water system has been restored to use. This is an added precautionary measure which may prove somewhat burdensome but should pay dividends in eliminating all possibility of typhoid developing in the hospital.

l. Every person connected with the hospital, including such patients as are capable of taking the treatment, should be given injections of anti-typhoid serum as soon as possible.

m. Use the experience gained in the past emergency to prepare for the next one. It may be that people will laugh at such a suggestion, but after all bear in mind that Noah was laughed at by some of the "wise lads" too.

Flood Victims Carry on in Kentucky

By THE SISTERS OF THE POOR OF ST. FRANCIS

ALTHOUGH the papers on Monday, January 18, announced that the Ohio river had reached flood stage 52 feet and was continually rising, it took several days before people realized that the city was to be visited with something more serious than ordinary "high water."

As St. Elizabeth's Hospital, Covington, is situated in one of northern Kentucky's many "flood free" areas we felt no alarm at the rising river, but prepared to receive refugees and to cook soup and coffee for those lodged at the city garage. When, however, on Friday, January 22, there was a heavy rain and the river stood at 71 feet we became anxious. For just a block away the water

was a foot deep in the street and our neighbors were ordered to move out. By this time water was coming into our food supply storerooms. A hurried call was sent to the fire department for help. Firemen responded immediately and pumped out the water, while all who could help, removed some of the supplies to safety. Another pump was stationed at the boiler room, as the water was in there, also.

On Sunday, January 24, now known to us as "Black Sunday," the rain came in torrents and the water kept creeping towards us. Already the ambulance entrance was completely obstructed, the water fast approaching the kitchen door. Four

At "high tide" the stone pillars of the ambulance entrance to St. Elizabeth's Hospital, Covington, Ky., were covered. The picture was taken after the water had dropped twenty-four inches.



pumps were not sufficient to keep the water low enough in the boiler room. Chief Northcutt of the fire department sent an SOS call for pumps. Ludlow, Kentucky, and Hamilton, Ohio, responded and sent large pumps and firemen to help.

At 4:00 p.m. the water was within a few inches of the ground floor. The city officials called for sand to keep back the water. Large trucks brought 50 tons of sand and about forty men worked in the rain to fill bags and stack them before the kitchen door. At the other end of the building sand bags were stacked around the six pumping engines and boiler room. It soon became evident that it was useless to try to keep the water from the ground floor, so all efforts and sand bags were then concentrated at the boiler room.

On the ground floor of the hospital are the following rooms: main kitchen, special diet kitchen, dining rooms, bakery, emergency room, pavex room, orthopedic, storage room for patients' records, housekeeping supply room, training school laboratory and lecture rooms. As the water was coming very fast, we sent a call for volunteers to help remove supplies and equipment to the next floor. Many men from the neighborhood responded. Sisters, nurses and others of the personnel removed supplies until the water was too high for hip boots. Later on we secured a boat and were able to remove some articles on shelves before the water reached them. Much of the heavy equipment could not be removed as the four elevators were not operating, the water had already reached their motors.

Now to return to our heating problem, even with six pumps working constantly, efforts to keep the water below the boilers became an impossibility. About 11:30 p.m. Sunday, Chief

Northcutt reluctantly gave orders to stop pumping, for the water was dangerously near the motors of the engines. The fire engines had scarcely gone when the water poured into the boiler room and we were then confronted with the heating problem.

Mr. Heck, our chief engineer, and others solved the problem. Next morning a steam shovel and steam roller, one small and two large upright boilers were secured and placed at different parts of the street in the front of the hospital. The steam was forced into the building through pipes, placed on trestles; these were connected to the main steam pipe on the main floor. The Latonia Refining Company sent expert mechanics, tools and material to help in erecting and maintaining this improvised heating system which kept the hospital comfortably warm during the whole period.

All gas and electricity was out at 11:00 p.m., so we used oil lanterns. There were three deliveries in the obstetric department after the electricity was out. The doctors worked as in pioneering days by lamp light. An emergency light system was installed, but as the power was low we could use it only for operating and delivery rooms and main corridors, in all other parts of the building lanterns were used.

The gas company sent a representative at 12:30 p.m. He informed us that we would have gas as soon as they could get a special overhead emergency line ready. The men started to work at 1:30 a.m. to make connections with the gas pipe in the street. A large pipe was fastened to a wooden trestle, hastily constructed on the main floor. This pipe was led several feet below the ceiling through a window in the main corridor

This scene of desolation is the rear entrance to St. Elizabeth's Hospital as it appeared on January 25. The drive was covered with flood waters to a depth of close to ten feet.



One of the upright boilers placed at different points in the street in front of the hospital. These were connected to the main steam pipe on the main floor level.

to the improvised kitchen in the Sisters' community room, where several small gas ranges furnished by the Burton Range Company had been set up. These we were able to use for supper. Breakfast and dinner were kept hot on coal-oil stoves which the Red Cross had sent. Soup and coffee were supplied us by the Elks and the Eagles every day. Five hundred persons including patients, refugees and workers were fed every day.

We still had another problem to solve as all laundering facilities were cut off. In solving this problem we were helped by the ladies from Covington, Independence, Florence and Hebron. Independence, Florence and Hebron are rural districts who had gasoline washing machines. The

women did the washing in the school building. To each of these towns, the city truck, which the Mayor had kindly put at our disposal, brought the wash and returned it to us—dry, but not ironed. We were very grateful to have clean linens for the patients. But still with this help the clean linen problem was acute. We used all new linens on hand and some sent us by different organizations and still we had to be very cautious and sparing. Our sterilization was done at the Scott Street Health Center.

Another worry was lack of water. Drinking water for patients was furnished by the Wagner Co. and Fritz Mineral Water Co. who sent us distilled water for this purpose. Hot water for bathing patients was brought in from the street where five salamanders kept water boiling all day. Some young men from the Red Cross were faithful at this post.

Waters Recede—Leave Desolation

By Sunday, January 31, the river had returned to its normal bed and the work of cleaning up was begun. Everywhere there are mud and débris, scattered over what was once a beautiful residential district. The work of rehabilitation began on Monday and an estimation of the damage resulting from the five days, 4 feet of water on the ground floor and 20 feet in the boiler room. We are not able at the present time to give an accurate statement as to amount of damage but a rough estimate of \$36,000 has been made. Our engineer gave an estimate of \$10,000 for the damage to the boilers. These boilers had just been installed in September at the cost of \$25,000.

All doors and other woodwork on the ground floor are either split in strips or have the panels bulging out. The furniture which we could not remove is completely ruined, all the electric light system has to be renewed. The refrigeration system is ruined, four elevators and two dumbwaiters are considerably damaged. There is a great loss in housekeeping supplies, such as soap, toilet tissue, linens, blankets, kitchen utensils. Still we have much to be thankful for and are most grateful for the assistance given us during this time of need.

Impressions of the Flood From an Ohioan

The following letter comes from Dr. F. G. Carter, superintendent of Christ Hospital, Cincinnati:

"In your letter of January 30 you asked for a few notes concerning the hospitals of Cincinnati and vicinity with special reference to the effect of the flood upon them. Thus far we have been able to meet all conditions with which we have been confronted. St. Mary's Hospital, Cincinnati, which is on the edge of the flood district, has had more demands made upon it than some of the rest of us, but the Sisters in charge of that institution have handled the situation most efficiently. I believe that Speers Hospital of Dayton, Ky., had to be abandoned on account of high water; and St. Elizabeth's Hospital, Covington, Ky., although surrounded by water on three sides, has been able to carry on during the emergency. Other hospitals of the Cincinnati district are not in the flood area.

"All of us were handicapped when the water supply failed on Sunday, January 24, but a tank wagon supply was quickly organized and we have been able to get along fairly well with less than a third of our normal water supply.

"The failure of the power distribution system caused temporary difficulty in those hospitals which do not generate their own power. Arrangements by the power company to hook up the generating systems of other cities such as Dayton, Ohio, Springfield, and Indianapolis and others, relieved this situation somewhat and all hospitals affected have been able to handle their electrical problems on a much reduced, but fairly satisfactory, supply. Adequate quantities of gas for cooking and heating have been available throughout the crisis. For a time we were worried about coal, but adequate quantities were assured before any shortage appeared.

"At the outset, representatives of all of the hospitals met and agreed to clear all hospital problems through Dr. H. H. Langdon, the superintendent of the General Hospital. This arrangement has worked out to our complete satisfaction, and possesses the advantage of having experienced hospital people handling all hospital problems.

"So far as I know, the physical plants of all hospitals in this particular section will be intact after the flood subsides, with the possible exception of the Speers Hospital in Dayton.

"Throughout this trying experience I have not been impressed so much by the flood waters, or the probable damage, or the inconveniences, as I have by the solicitude of our neighbors and friends for our welfare. Offers of help have poured in from all parts of the country. One can't help being impressed when he sees an ambulance manned by two doctors and two assistants drive in saying, 'We are from Kenosha, Wis., and we are here to do anything possible to help in this situation.' In this same connection, one is further impressed when he learns that forty ambulance units have been made available within a four hours' drive of Cincinnati.

Friends Indeed

"I have been made to feel very grateful indeed as I look out of my office window to see tank trucks from Cleveland, Columbus, and Piqua, Ohio, and other points, delivering water to the hospital so that we may carry on our activities. One of the first to communicate with me was Paul Fesler, of the Wesley Memorial Hospital, Chicago, at a time when the occupancy of the hospital was rising rapidly. He asked if he could send supplies of any kind, and when I told him of some of the things we could use, he saw to it that they were shipped to us immediately.

"The authorities here have not been unmindful of the danger of a typhoid epidemic developing, and have instituted a plan of inoculation against this disease. I heard of a rather interesting sideline on this situation yesterday. It seems that no liquor is allowed in any Red Cross Station. One man who happened to be present in one of these stations where inoculations were being done was asked if he did not want a 'shot.' He was certain that he did. Apparently he misunderstood, and while he was waiting for his 'shot' a hypodermic needle was inserted in his arm.

When Electricity Fails You

"One does not realize how important our public utilities are until he is suddenly deprived of their services. When you can't get gasoline because the electric pumps are not working; when the gro-

ceries can't grind your coffee because the grinders are electrically operated; when you can't get your car out of the garage because the door is electrically operated; when your oil and gas furnaces won't work because the electrical gadgets which operate them are out of commission; when you have to walk up ten or fifteen flights of stairs because the elevators are dependent upon a continuous supply of electricity for their operation, and when you encounter other things too numerous to mention which are dependent upon electricity for their usefulness, you really begin to appreciate the value of electricity and you begin to realize how dependent we are upon this source of energy.

Fire Stations in Miniature

"Of course, one of the greatest hazards in a time like the one through which we have been passing is fire. Two of the hospitals have experienced small fires. All hospitals have set up miniature fire stations of their own consisting of 40-gallon mobile tanks containing chemical extinguishers. Mounted on large wheels these can be moved rapidly to any part of the hospital to use in extinguishing fires. This is highly important because the regular fire department is badly handicapped through the failure of the municipal water supply.

"In times like this everyone wants to help and the many offers received are sincerely appreciated. I am convinced that the greatest efficiency results from using existing facilities and organizations, expanding and contracting wherever necessary to meet the needs of the situation. This results in everybody doing the thing he best knows how to do, and there is far less confusion than there is where efforts are made to superimpose an emergency organization upon an already efficient structure which needs only rank and file expansion and contraction.

The Financial Effect

"I am somewhat concerned as to the after effects of this disaster upon the hospitals of this community. I am wondering whether or not there may be a localized depression following in the wake of the flood. Many who live in Cincinnati and in the territory from which Cincinnati hospitals naturally draw patients are going to be adversely affected financially. This may, in turn, be reflected in the finances of the hospitals in the Ohio Valley, and it may mean that the year 1937 will fall far short of being the year that we had anticipated it would be.

"These are just a few random thoughts which came to my mind today."

Medical Care Surveyed

THE report of the "interim committee" appointed by the Assembly of California to investigate health and insurance has just been received. The chairman is Thomas J. Cunningham. The committee recommended that a new committee, including both members of the legislature and citizens drawn from the medical profession and lay groups, make further study of the subject.

The problems of hospitalization and of private group clinics receive considerable attention in the report, but its most striking portion is a summary of the large scale survey of medical care conducted in 1934-35 as a WPA project. The total cost was \$95,000, of which approximately \$60,000 was contributed from federal and state funds and \$35,000 by the California Medical Association. Approximately 65,000 persons in all parts of the state were covered, together with about 3,500 physicians, 2,200 dentists and many hospitals, clinics and public health agencies.

Findings of the Report

Dr. Paul A. Dodd, assistant professor of economics at the University of California of Los Angeles, was director of the survey. The committee report quoted Professor Dodd's summary of the more striking findings as follows:

"Although the per capita income of the people of California is fourth highest among all the states of the Union, half of its population lived in families whose net incomes in 1933 was less than \$1,200 and three-fourths, less than \$2,000. . . . On the basis of the survey it was found that 758,000 white persons report a need at any given time for medical care and 533,000 for dental care. Of these 658,000 have had a medical diagnosis and 340,000 have had a dental diagnosis.

"But the tragic part of the story is found in these facts — that out of the 658,000 who report the receipt of a medical diagnosis which has shown the need for treatment, only 440,000 are receiving medical treatment, thus leaving an estimated 218,000 persons at any given time within our state not receiving the treatment needed.

"Similarly out of the 340,000 persons who at any given time have received a dental diagnosis which has shown a need for treatment, only 166,000 are receiving treatment.

"Can we talk of 'too many doctors and dentists'; can we boast of our 'high health standards' or can we stand by with complacency in view of these conditions?

"The problem is not one of average charges but of variations in individual charges."

Spotlight on the Pharmacy

By MORRIS DAUER, Ph.G, B. Sc.

A PHARMACEUTICAL department of an institution should be conducted in such high orderly and professional manner that it will be an institution within an institution. In a large hospital this department, unlike the small retail drug store, receives and distributes surgical supplies and materials and attends to the compounding and dispensing of prescriptions and galenicals. Proper physical facilities and a minimum amount of well trained and well chosen help must be provided to further this end properly.

The department should be located so that the pharmacy will be accessible to wards, operating rooms, clinics and the out-patient department. It is best to have it occupy two floors. On one floor, preferably the ground floor, all dispensing to out-patients may be done and prescriptions compounded. The administrative office of the chief pharmacist should also be on this floor. Adequate storage space should be provided for prescriptions prepared in advance and kept ready for distribution to patients and to wards and clinics.

The other floor, either directly above or below, should be used for storage. The center of this floor should have proper facilities for compounding in bulk and for the manufacture of galenical preparations in large quantities.

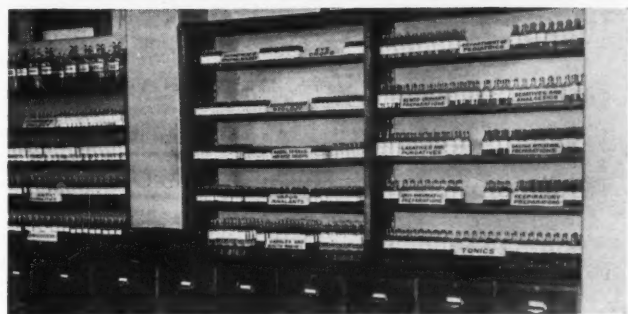
The main floor, treated as an individual unit, will consist of one prescription unit, where will be compounded extemporaneous medicines as ordered by the medical staffs. This will resemble the compounding unit of any retail drug store. Chemicals and medicines are stored in small quantities on shelves and in drawers, in a compact arrangement. These chemicals and medicines are stored in glass-labeled bottles with ground-in stoppers.

Standard equipment for weighing and measuring, which consists of standard torsion balances and a complete set of double-scale graduates, glass

and wedgewood mortars and pestles, ointment slabs, pill tiles, tablet triturate molds, spatulas, of stainless steel and hard rubber, and other necessary equipment will be located here.

A closet for stored poisons, with steel shelves, built into the wall and having a fireproof door with lock and key, should be provided and should be kept under constant surveillance. There should be a similar closet for the storage of narcotics. Prescriptions containing narcotic drugs or poisonous ingredients should be compounded and dispensed only by a pharmacist licensed to practice pharmacy by the state board of pharmacy of the state in which the hospital is located.

If possible, these individual prescription units



Row upon row of prescriptions, bottled or packaged and labeled, are stored in a compact arrangement. Glass-labeled bottles with ground-in stoppers are used.

should be so located that the pharmacist so engaged shall not be disturbed.

On this floor we provide shelves for the greater amount of prescriptions, bottled or packaged and labeled, ready for distribution. These preparations should be so placed that an immediate classification may be made according to some system, preferably divided into the various branches of medicine or into those specialties of medicine to which they apply, such as cardiology, dermatology, diabetic medication, gynecology and obstetrics, ophthalmology, otology, pediatrics, rhinolaryngology, surgery, urology, gland products, medicine external, medicine internal, and respiratory medicine.

The shelves on which these preparations are placed should be of material that may be readily cleaned, such as painted steel or chemically treated wood. Ointments in small containers, ready for dispensing, should preferably be stored on shelves made of soapstone or chemically treated wood.

Windows should be placed at opposite ends of this room from which articles may be readily distributed. One window will be used for the dispensing of prescriptions to patients coming from the out-patient department; the other should be reserved for hospital employees, physicians, nurses and messengers who will take supplies to the wards without undue delay.

A sink, built into the laboratory counter, should be conveniently located on this floor for laboratory purposes. There should be another smaller sink, with soap and towels, for the pharmacists' personal use. On this floor should also be a large refrigerator, with suitable mechanical refrigeration, for the storage of biologic preparations and for special medicines which are to be kept at a reduced temperature.

The chief pharmacist's office should be in a corner or, if possible, a wing of this main floor, from which he will, with regularity, keep control and check the numerous procedures which require his personal attention. This office should be equipped

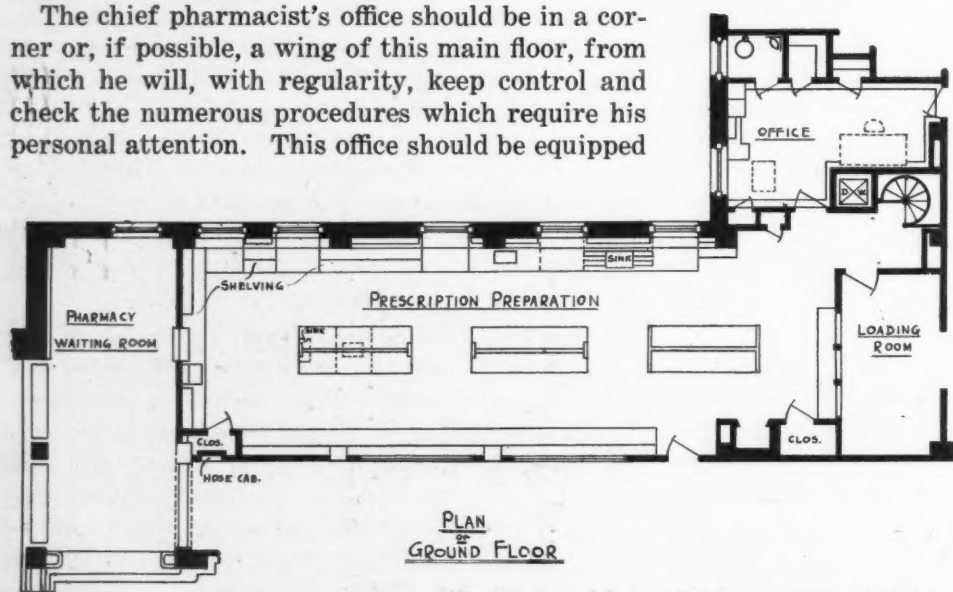
with typewriters and filing cabinets and will hold a pharmaceutical library. It is wise to have this library as completely equipped as possible with texts, pharmaceutical periodicals and up-to-date reference material, so that if special information is needed it may be readily accessible and obtainable in the department.¹ Resort to outside sources of information should be infrequent because of the delays. This pharmaceutical library may be provided at small expense. It makes possible the immediate handling of special prescriptions and preparations which do not come under the realm of commonly prescribed combinations.

It is advisable to have a complete file or card system of pharmaceutical proprietary preparations which may from time to time be tried by various members of the medical staff.

Another desirable feature to be maintained on the main floor is an emergency drug closet, labeled conspicuously "Emergency Drug Closet," in which in suitable quantities are drugs and medicines which may be needed for emergency use, as in the case of a fire or other major catastrophe when the demand may suddenly be very heavy. The drugs should also be arranged according to classification which will make them immediately available. This closet should contain heart stimulants, sedatives, local and general anesthetics, insulin, antiseptics, first aid burn material, surgical dressings. A list, giving the location of every item, should be posted in the closet. This closet may also serve to supply immediate needs during the night or when the pharmacy is closed.

The manufacturing and storage floor of the pharmacy is an important adjunct for the performance of routine business and must be appropriately equipped. Long central laboratory tables are needed for compounding medicines in large

quantities; the under portions should serve as storage space for chemicals received in bulk. A large soapstone laboratory sink should be conveniently located, furnished with a steady supply of hot and cold water. A still capable of making moderate quantities of distilled water should be furnished with a unit of live steam, such as is used to operate sterilizers and autoclaves.



¹A list of these texts, reference books and periodicals will soon be published by the author under the title of "The Pharmacists' and Chemists' Library."



Chemicals and medicines are stored in small quantities on shelves and in drawers in the prescription unit where medicines are compounded. Preparations are classified according to various branches of medicine.

Near the sink, a large earthenware table should provide space for bottles to be washed.

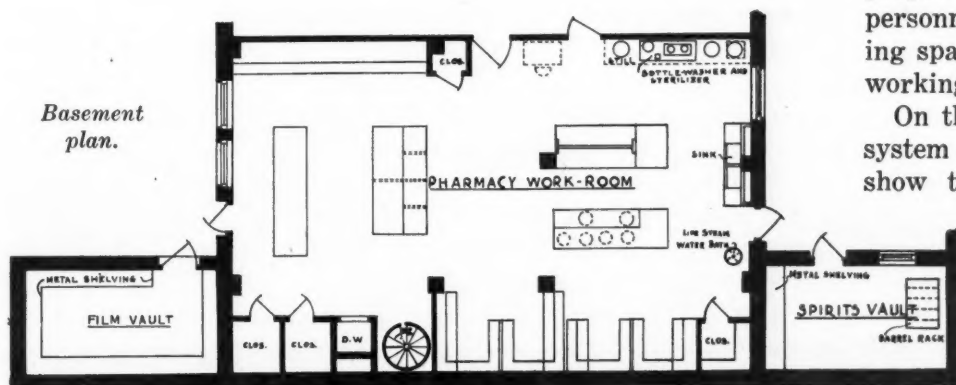
On the same side as the sink, proper heating facilities for the manufacture of large quantities of syrups and other preparations requiring heat should be placed. An autoclave or other sterilizing apparatus may be placed in the immediate vicinity, or along the same line with the sink, sufficient to accommodate a considerable number of bottles or other apparatus. A large water bath may be placed near this, fitted with a water supply. The water bath should be made of a metal suitable to withstand sufficient use, and should be provided if possible with live steam to obviate the use of a naked flame. It is best in the general scheme of manufacturing preparations in large quantities in a hospital pharmacy to eliminate a direct open flame, because of the inflammable fea-

tures constantly present in and about a hospital.

A specially constructed closet must be provided in which to store inflammable materials, such as ether, chloroform, oxygen tanks, nitrous oxide. Somewhere immediately adjoining this floor, a vault, with suitable ventilating apparatus, should be provided for inflammable materials. X-ray films should also be stored in a vault.

The physical layout described is for a pharmacy in a hospital of 3,000 or 4,000 beds, with an outpatient department catering to about 750 to 1,000 patients daily. The efficiency of the pharmacy must be maintained not only by its arrangement, insofar as the correct placing of equipment, shelving and other features are concerned, but definite systems to facilitate the proper operation are necessary. Proper lighting and ventilation, either natural or by fans, must be maintained, also proper accommodations for the personnel to maintain even working space and regular comfortable working conditions.

On the main floor, an inventory system should be maintained to show the amount of readymade preparations kept on the shelves for dispensing. These may further be checked with a control number system. Exact inven-



tories of narcotic drugs, as well as records showing the receipt and disbursement of such drugs, must be kept. This should serve as a perpetual narcotic inventory.

Actual dispensing of prescriptions to patients should be done only by a licensed, qualified pharmacist who can, with exactness and regularity, interpret directions for the patients, and take care of many patients in the shortest space of time possible. Dispensing to nurses and other hospital attendants should be done in a similar manner. Records of all disbursements should be kept and, in a control ledger, should be charged to the proper ward or department.

Pharmacist Should Prepare Formulary

The types of medicines prepared and used are best regulated through the medium of a hospital formulary. Such a formulary should be prepared by the chief pharmacist in collaboration with the medical staffs of the services and should be adopted after discussion as to its therapeutic usefulness, palatability and keeping qualities, the cost of material being kept when possible to a minimum. This will reduce the number of proprietary remedies, which so often congest the shelves of a pharmacy, to those actually needed and which cannot be replaced or compounded from drugs and chemicals which are official in the U. S. Pharmacopoeia and National Formulary. As a service to the medical staff and to simplify prescribing, the pharmacist in preparing this formulary should arrange the prescriptions as to the various departments to which they apply and also give a description of the physical characteristics of the medicine, such as color, odor, taste.

In the second branch of the pharmacy, which deals with the manufacture and storage of medicines, we are obliged to borrow and incorporate many ideas and procedures found in a regular manufacturing plant.

Adequate provision must be made for the storage of prescription bottles and containers. New bottles and containers should be used when possible. Old or returned bottles should be thoroughly cleaned and, if provision can be made, sterilized with live steam. All liquid preparations which are made should be filtered. One of the tables should be so set up that large holes may be set to hold large funnels having a capacity of about a gallon. The vessel which is to collect the filtrate may be placed underneath the table, and should be made of rustproof metal to minimize metallic reactions. If this cannot be done, large glass vessels should be used.

Ointments, when prepared in large quantities, may be mixed in a standard ointment mill and

stored in either large rustproof metal containers or earthenware containers provided with suitable covers and should be properly and plainly labeled.

Tablets, if prepared in bulk, should be manufactured by making the proper granulation and then compressed with a standard tablet machine. Capsules, when used in quantity, should be compounded by having a qualified pharmacist prepare the trituration. With proper instruction, one of the other assistants can fill them by hand. Medicines for hypodermic administration should be prepared only by a graduate pharmacist, under the immediate supervision of the chief pharmacist. These preparations should be properly sterilized and immediately bottled in sterilized bottles, stoppered with rubber diaphragm caps. The finished product is again sterilized and every bottle is labeled, the label revealing the contents and the date of preparation. These bottles should at once be dispensed for use.

A portion of the manufacturing floor must be set aside during several hours of the day for the receiving and filling of the drug boxes, which are then distributed throughout the various wards of the hospital. This should be done efficiently and quickly. It is preferable to have one assistant fill these boxes and another check and keep proper records of all materials so dispensed. This is in addition to the careful records which must be kept of narcotic preparations supplied directly to the wards. In this department special attention must also be given to the special storage of delicate drugs and chemicals which may be spoiled or injured by the elements.

Storing Drugs to Advantage

Drugs susceptible to light should be stored in amber or other suitably colored glass bottles, well fitted with ground-in glass stoppers. Drugs susceptible to moisture or which contain volatile ingredients should also be stored in glass bottles, fitted with ground-in glass stoppers. The importance of equipping a pharmacy with such bottles cannot be overemphasized. Most drugs are affected by one or the other of the elements. The storing of drugs and chemicals in these bottles will not only keep these medicaments for a longer time but will reduce expenditures for supplies.

The pharmacy personnel should be properly trained to maintain efficient organization, and their efforts in this direction should be shown sympathetic consideration by those responsible for the elevation of the scientific work of the staff. The pharmacist should be invited from time to time to staff meetings and treated with professional courtesy, so that the dignity of his office will be in direct relation to the work performed.

Toward That Utopian Building

The hospital building planned cooperatively by superintendent and architect offers a bulwark of defense against administrative headaches

By JOSEPH C. DOANE, M.D.

WHEN a gross error in construction or in arrangement of units is discovered after the occupancy of a new hospital building, it can then only be regretted and often in no degree remedied. It is a matter of great wonder that so few major errors occur in hospital construction with the rather hit-and-miss methods frequently employed in the preparation of plans.

There are many reasons why the construction of a new hospital is not approached with the same businesslike orderliness and prosecuted with the calm deliberation and care which characterize other types of new buildings. When funds for construction become available, particularly if a wholly new institution is to be built, there develops an atmosphere of haste, of anxiety to view a building, to occupy it and to feel proud of its existence.

Especially is this true if the money comes from a private source whose agents, understanding little of the complicated processes necessary, demand that the money be immediately transformed into a hospital building. When gross errors do find their way into hospital construction, not infrequently this inordinate desire for haste and this lack of knowledge concerning the planning of an efficient hospital plant are responsible for the mistakes.

It is the purpose of this sketch to point out methods by which a strong and effective liaison can be created between that person who is informed concerning hospital service requirements and the architect who visualizes these needs and transforms them into blueprints and later into physical buildings.

The idea having been born that a new hospital wing or that a new plant is needed in a community, much preparatory work must be performed

and meetings held without end before any visual evidences of progress are apparent. The methods employed will depend upon the sponsors for the new building—whether they are governmental, fraternal, religious or community in nature.

In a government set-up a salaried architect may be available. This architect, trained though he be in the construction of public buildings, municipal water works or convenient boulevards, may possess no special knowledge of hospital construction. To be sure, every well trained and experienced architect knows the mechanics of providing for stress and strain and incorporating these practical principles into a building that will be pleasing to the public eye. But the training possessed by even the most seasoned architect does not usually qualify him for efficiently arranging the interior of a building so that it will be most adequate for the care of the sick.

Expert Advice Essential

There are those who will dispute this statement, but it is still the opinion of many that in this country there are comparatively few architectural firms that specialize in the construction of hospitals and are capable of assuming the responsibility of arranging the service units of a hospital in the most efficient and convenient manner. This being the case, there must enter into the picture some specialty advice which may emanate from a hospital consultant or from the superintendent of the hospital concerned.

If a hospital board of trustees is constructing a new group of buildings adjacent to an old plant, the problem is somewhat simplified. The needs and the trends of the community are fairly definitely known and the source of funds rather more easily determined because of the existence, to a certain degree, of hospital consciousness on the part of the community. Much advice can be obtained not only from the superintendent but from major department heads as well, in this case.

It is taken for granted, for the sake of argu-

ment, that the amount of funds available has been decided upon. It is also to be assumed that the community has been surveyed and the need for an institution definitely confirmed. It is also conceded that definite facts are available as to the total number of beds needed and the required capacity of such departments as medicine, surgery, maternity, children's, private and semiprivate units.

With these facts at hand, one of the greatest stumbling blocks in general hospital construction can be avoided. When one observes a community formerly thought to be blest but now known to be burdened with an expensive hospital plant, the reason is usually found in the absence of sufficient money to maintain the plant or the existence of an overwhelmingly burdensome mortgage. Splendidly constructed institutions in not a few locations are today struggling for existence because from maintenance money must each year be taken a crushing toll for the payment of interest.

Group Discussion Is Fruitful

It is best, therefore to lay the cards on the table at a meeting attended by all concerned—architect, superintendent or consultant, building committee and representatives of the sponsoring community, church, fraternal or governmental body. All visionary emotionalism should be put aside for the moment and the problem of how the institution is to be maintained when once built thoughtfully considered. Blue sky figures, computed by multiplying the number of beds available by the possible income per patient day, should be largely, if not wholly, discounted. The problem of constructing the institution so that it may be maintained by the supporting body at the lowest possible expense should be seriously discussed. The probable maximum maintenance cost per day should be compared with the probable average maximum daily income per bed. The probable gross loss per year should then be estimated and a source for meeting this deficit be discovered, if possible.

The architect and superintendent should endeavor to prepare plans for an efficient institution which can be maintained at the probable gross income per bed. The size of the public wards is of great importance because free care must be budgeted and a decision reached as to the most economic utilization of the nursing hours which will be available.

It is recognized, of course, that only the roughest working figures can be set down before this income is determined by actual experience, yet if an institution has been maintained in a given community helpful cost and income figures will likely be available.

There are many other facts which must be learned before definite steps can be taken to prepare a blueprint. Is the hospital to maintain its own laundry? Will it conduct a school for nurses? Will it house its own help? What will be the extent of its out-patient activities? What will be the ratio of private and semiprivate beds to ward beds? All these are problems requiring hours of debate before definite answers applicable to the specific community can be obtained.

There Must Be Give and Take

With a rough decision reached regarding the cubic footage required to accommodate patient and service requirements, private conferences between the architect and the superintendent or consultant begin. The greatest flexibility of opinion must exist on the part of both of these persons. It must be mutually agreed that the architect will be willing to yield to the opinion of the experienced hospital executive in matters which concern the arrangement of wards, rooms, laboratories and special service units, and that the latter must conform to the opinion of the architect in regard to matters purely structural.

The duty of the superintendent is to endeavor to avoid, insofar as possible, sins of omission and commission which render the care of the patient more difficult and more expensive. The architect on the other hand must endeavor to translate into bricks and mortar and steel the practical ideas of the superintendent in the most economical fashion. Frequently a hospital administrator will press for expensive and impractical features in order to gain some administrative end which can be met at much less expense by the adoption of the suggestions of a skilled architect. A frank and full working agreement as to the cooperative authority of the architect and the consultant must exist from the start.

An Individual Problem

It has been intimated that new hospital buildings cannot be constructed from plans copied from books, nor are most architects inclined to follow this policy. Whatever the method of approach, it must be understood that no two communities can be served efficiently by the same type of hospital construction and that to endeavor to construct such institutions as automobiles are built on a service line is not sound.

Two basic principles must be pre-eminent in the minds of both the architect and superintendent—to progress slowly, and to avoid the necessity of requiring the expenditure of money for contract extras made necessary by oversight in the preparing of plans. Indeed it may be said that

the efficiency of planning can sometimes be measured by the amount of money later required to provide those things which should have been thought of but were not when the blueprints were being drawn.

Here are certain matters concerning which the experienced hospital executive should have greater information than the average architect:

1. The efficient handling of visitors, which implies the existence of waiting rooms; of convenient entrances and exits for ward and private patients; of space adjacent to ward units to prevent the clogging of ward areas by an inordinate number of visitors per bed, and other miscellaneous provisions for the control of this usually troublesome problem.

2. The shortening of transportation lines for food, laundry and patients is important not only from the standpoint of the safety and comfort of patients being transported to and from operating rooms and special diagnostic and treatment departments, but also from the angle of the maintenance of food at the proper temperature and of the saving of personnel time. Here the experience of the hospital executive must suggest the proper arrangement of buildings so as to place such units in the closest possible relationship to each other.

3. The new hospital should be constructed with the idea of simplifying cleaning. Provisions should be made in the original plans for the placement of electric outlets for vacuum cleaners; of drains; of water pipes, and the allotment of space for the airing and cleaning of private room rugs. The hospital executive can offer sound advice on these matters.

4. Adequate space for storage of movable equipment, stretchers, ward carriages and food trucks is often entirely forgotten unless specifically requested by a hospital trained person.

The proper planning of operating rooms, the provision of locker space for employees and the efficient arrangement of diet kitchens are matters which are too frequently given casual attention and treatment. As has been indicated above, the cost of maintenance is definitely affected by the absence or presence of such provisions.

The Question of Elevators

Elevators are an important factor in the everyday work of the hospital. Instances have been noted in which elevator floors were too short to accommodate a stretcher and its attendants. Exits from elevators and doors leading into much used spaces, as diet kitchens and dressing rooms, are frequently not protected by metal bumpers to prevent wall damage.

Noise prevention is of the utmost importance

and deserves careful consideration by the architect and the hospital executive. Provisions for proper lighting, for radio installation and for air conditioning are of necessity matters which should receive much thought. On the other hand the architect must be held fully responsible not only for mechanical provisions to meet stress and strain but for fireproofing, proper flooring, signal devices, construction of the heat, light and power department and for the thousand and one other details concerning which the hospital executive knows little, if anything.

The plans, sketched first in pencil, then revised and re-revised, must pass through many stages before they are in form to present to the board of trustees for final adoption. Indeed it may be said that the important work of constructing a hospital must of necessity be performed in the architect's office with the consultant or superintendent and architect spending many shirt-sleeved hours of concentration so as to neglect nothing that is essential and to include nothing that should be omitted.

Making Maintenance Easy

The time to furnish the new hospital is when it is being constructed. Irregularly shaped rooms, out of the way spaces difficult of furnishing can often be avoided and hence later expense in equipment saved. It is much more economical to purchase furniture and rugs from stock than to have them made to order. Such architectural mistakes as building windows that are impossible to approach for cleaning, providing types of roofs that are certain to leak, covering water pipes that are in the wall or running steam lines in electric conduits sometimes occur much to the regret of the architect in years to come.

Nothing in this article is intended to imply that all architects are incapable of building hospitals without aid or that resident superintendents are more skilled than out-of-town consultants. It is the exception that proves the rule. An effort has been made to stress the point that a good architect and a good hospital superintendent or consultant will be able to prepare better plans for a new hospital than either one acting alone.

While the general architect cannot be expected to know the details and difficulties of hospital administration, neither can the hospital administrator be expected to furnish detailed information concerning the art and science of architecture. Frankness, a spirit of give and take, of intellectual honesty and of courage should characterize both of these important persons when it comes to the construction of a new hospital no matter what its type.

What Others Are Doing



Laundry at Grant Hospital, Chicago, where newly installed equipment has been the means of substantial saving in supplies, water and power.

Substantial Savings Have Been Made

Grant Hospital, Chicago, a few years ago noted that an excessive amount of soap was being purchased for the laundry. Investigation revealed that supplies were being wasted because of the physical condition of the washers then in use, which did not have automatic water control or even gauges to indicate the amount of water used.

After a careful study of the situation, it was found that by replacing the washers alone some savings would be accomplished insofar as supplies were concerned but there would still be an unbalanced condition in the laundry, due to lack of capacity of the other old machinery to handle the increased production of new washers.

It was readily seen that by installing new washers with a capacity of 425 pounds of dry weight per hour, the old extractors with only 250 pounds' capacity and the old four-roll flat work ironer with only 225 pounds' capacity plus the slow operation of two old foot power presses would prevent an even flow of production and hence no reduction in labor would be effected.

Taking into consideration all these facts, it was finally decided to replace all of the old machinery with modern equipment at a cost of about \$16,000.

The new equipment consists of:

1—42 x 84 monel washer, motor driven.

1—36 x 54 monel washer, motor driven.

2—30" underdriven extractors, motor driven.

1—120" 6-roll flat work ironer, motor driven.

2 full automatic, air drive steam presses.

1—4" x 2½" air compressor.

1 curtain stretcher with caster extensions.

As a result of this installation substantial savings have been made on supplies, water and power. Due to better washing action in the modern washers deterioration of linens has also been greatly reduced. Increased production all along the line from washer to ironer has effected a pay roll savings of approximately \$200 a month which added to the savings on supplies represents an actual cash saving of \$300 or more a month.

This saving will liquidate the cost of the entire new equipment within a period of five years.

All Its Members

Listing its members from 1897 to 1936, the alumnae association of the Tacoma General Hospital, Tacoma, Wash., recently published its enrollment in the form of a pocket sized booklet, the sixty-four cream colored pages bound in brown suède.

The cover bears the hospital seal in gold, and it is reprinted on the title page. The directory is dedicated to Samuel M. Jackson on the completion of his twenty-fifth year as president of the hospital. The officers of the alumnae association, the officers of the school of nursing, the board of trustees, honorary members, and valedictorians and salutatorians are listed in the front of the book.

Graduates are entered under their maiden names with the date of their graduation. Their married names are given in the second line, along with their addresses. If a member is dead, after her name appears simply "deceased." If communications to her are returned unopened, after her name is printed "address unknown."

Information for the booklet was obtained from the hospital's files, where a record of every graduate nurse is kept, and, so far as possible, the information as to whether or not she wishes to work.

Well Baby Clinic Conducts Contest Among Members

Its first better baby contest was recently held by St. Vincent's Hospital, New York City, in such a successful manner that the contest will probably become an annual affair. Entries were all born in the hospital's obstetric department, and have been attending the well baby clinic regularly under the guidance of their mothers. Babies were judged as to their physical perfection according to a standardized scale, by three of the staff doctors, the health officer of the lower west side, and a nurse. The contest was opened with an address delivered by Dr. William M. Ford, president of the medical board, which was followed by an instructive talk by Dr. George Bader, director of pediatrics. After the last award had been made, a reception was held at the nurses' residence.

Probably you can think of one or more practical ways to save time or increase efficiency. The Modern Hospital will welcome your ideas to put before other hospitals

More Aid for Cancer Victims

By JAMES S. GALLO, M.D.

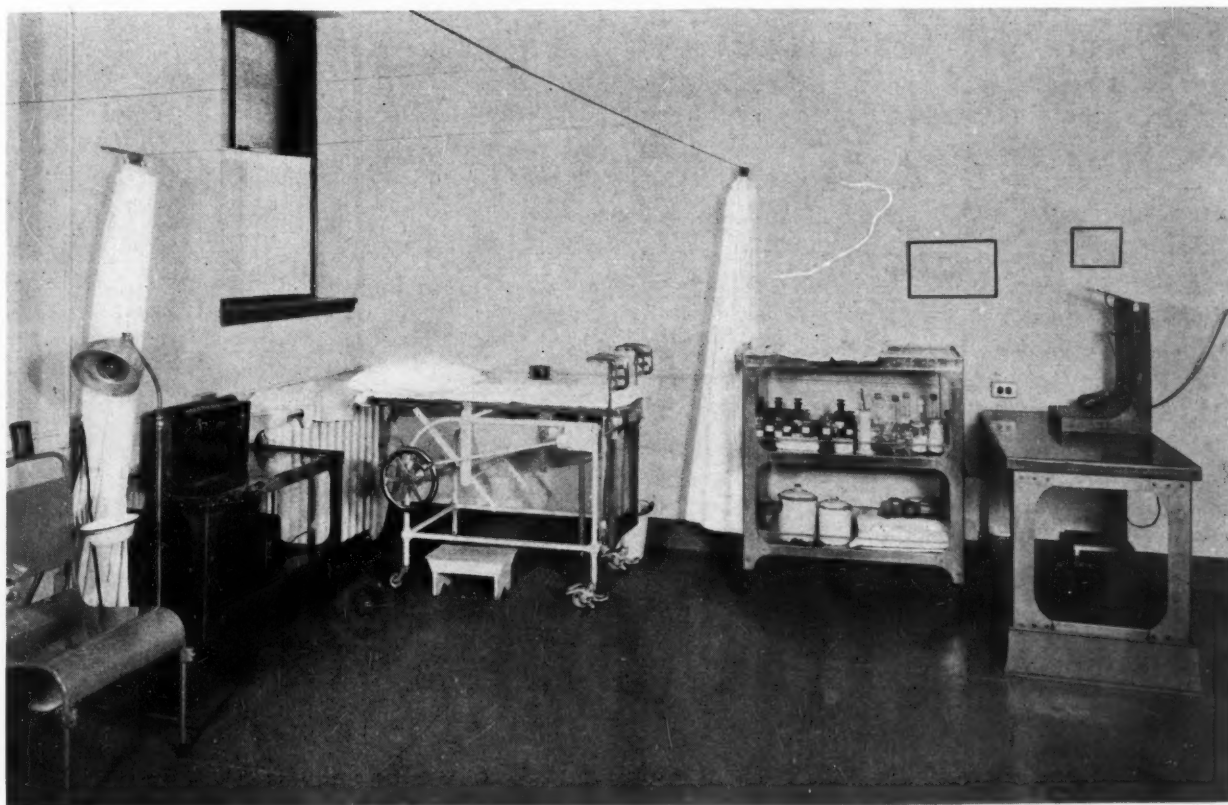
ABOUT five years ago several members of the major staff of Paterson General Hospital, Paterson, N. J., realized the importance of organizing a tumor clinic. Space, nursing facilities, beds and operating facilities were available but funds were lacking. Plans for organization were discussed, however, and when a gift of 130 milligrams of radium element salt was made by Hugh C. Lendrim in memory of his wife, the plans were realized and the Josephine Lendrim Tumor Clinic opened its doors.

The board of managers and staff of the hospital gave whole-hearted support to this enterprise, and physicians in the surrounding territory were notified of the opening of the clinic.

This is not a diagnostic clinic but a clinic for the diagnosis and treatment of tumors, primarily for persons who cannot afford private or semi-private care. All cases accepted for clinic care

present a note from their personal physician stating that there is evidence of the possible presence of a tumor or cancer and that the patient is unable to pay for private care. If a tumor or a cancer is subsequently found the patient is treated and followed in the clinic. If no tumor or malignancy is found, the patient is either referred to his personal physician or to the proper outpatient department. Permission is given to our consultant to see cases referred to him by local physicians on a private basis.

The patient is met by a reception clerk and the registration fee of \$2 is collected. The patient is then referred to the social service worker, who makes inquiries as to the patient's financial standing. A questionnaire is filled out from the information gathered. If it is found that the patient



This view shows one corner of the main examining room which is equipped with an operating table, two dental chairs, a sputum basin with running water, a compression and suction machine, a dressing carriage, a carriage for a battery set, a sterilizer, a radium assembling table and several instrument cabinets.

can afford semiprivate or private care and has been referred to the clinic not because of poverty but because there is no other agency in the neighborhood for treating such a case properly, then he is referred to the consultant on a private basis.

An effort has been made to obtain revenue from clinic patients to defray the cost of a full-time secretary, since this is the only addition to the hospital staff made necessary by the organization of the clinic.

Service Charges

The consultant and the associates receive no remuneration for their services. We therefore charge a registration fee of \$2, and \$1 for each subsequent visit, except for redressings and clean-up visits for which there is no charge. A fee for radium rental is charged—\$5 for clinic cases regardless of dosage. For semiprivate cases there is a charge of \$10 per 1,000 milligram hours of radium, and double this for private cases. A fee for laboratory work is also charged depending upon the service.

A financial statement for each patient is kept on the reverse side of the social service card. Charges are scaled down in accordance with ability to pay and cards are approved upon recommendation by the social worker. A large free service was extended and made a part of the regular free load carried in the routine out-patient department. Collection of the above fees has often not been possible but enough has been collected to more than defray the cost of a full-time secretary and regular direct charges. All expenditures for salaries and supplies are charged to the clinic; all income is credited. It is planned later to break down the bookkeeping system to include all indirect charges and pro-rate the cost of part-time personnel.

Regular clinic sessions are held three times weekly. One session for follow-up cases, one for accepting and working up new cases and a third, conducted by our consultant, for outlining treatment of new cases and complications arising in other cases. Minor and major operations, application of radium and endoscopic examinations are made on the remaining days of the week. High voltage x-ray treatments are carried out daily. Complete records are kept on each case, according to standards established by the American College of Surgeons' committee for the study of malignant diseases. Photographs are taken, if possible, before and after treatment.

A follow-up system is maintained, so that all appointments for the same day are kept together. A form letter is immediately sent if the patient does not appear. If no response is received, a



Transilluminating outfit and various radium applicators employed for transilluminating tumors.



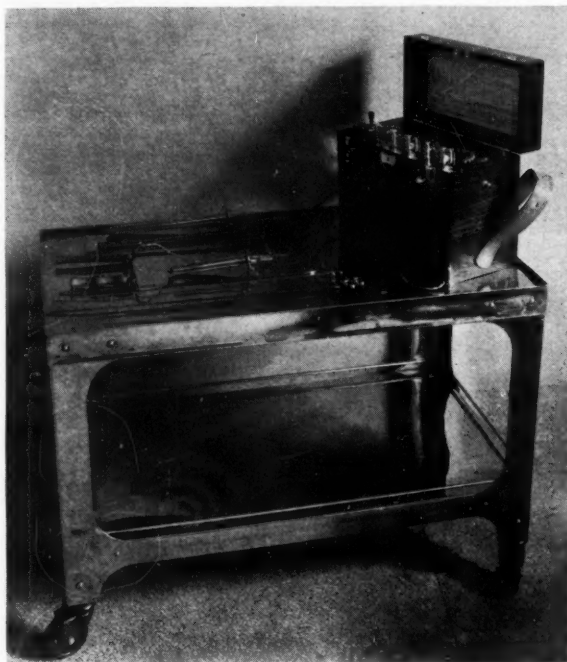
Movable carriage suitable for solutions, instruments, bandages, gauze, specula and biopsy forceps.

second more urgent letter is sent. If this fails, the social service worker is asked to investigate. Cases to be hospitalized are sent to the tumor department of the surgical service, where the personnel of the tumor clinic has direct control. This practically amounts to an inside tumor service.

The personnel consists of a consultant cancerologist, who is a surgeon especially trained in a cancer institute, a roentgenologist, two surgical associates trained in radiology, an intern, a nurse, an x-ray technician, a secretary, a social service



This closet provides a safe for radium, files for records, radium carrier and endotherm outfit.



A carriage accommodating a battery box and different types of endoscopic instruments.

worker and a reception clerk. It was necessary to add only two of the above to the regular hospital staff—the consultant and the full-time secretary. This demonstrates the advantage of organizing a tumor clinic in conjunction with a general hospital.

All patients are seen, diagnosed and their therapy recommended by the cancerologist, who is present in the clinic twice or three times weekly. The proximity of Paterson to New York City makes travel back and forth easy for him.

The duties of the reception clerk are to receive the patient, make any collection possible and ensure the comfort of patients waiting for treatment. In our organization this individual is an assistant superintendent of the hospital who gives us part of her time.

The social service worker who determines the economic status of the patients is the regular hospital worker, who gives us part of her time. While making outside calls for other departments of the hospital she contacts patients who have failed to keep their follow-up appointments.

Because complete records are necessary in treating cancer intelligently, a full-time secretary is indispensable. Her duties are to take dictation from the doctors, make out admission notes and follow-up notes, maintain a follow-up system, make out monthly reports, take care of correspondence and act as custodian of the radium. She also keeps a journal, in which she makes a note of patients seen and of the work done on each day. An exhaustive report of the activities of the clinic is compiled each month from the journal. Special forms have been prepared for the management of the clinic.

The x-ray technician aids the roentgenologist in taking diagnostic films and giving high voltage treatments. The nurse aids the physicians by preparing patients for examination, and by conducting the clean-up care of patients following the use of radium and x-rays. These two are regular employees of the hospital. One of the regular hospital interns has been assigned to assist in the medical and surgical care of patients admitted to the tumor department.

Training Young Physicians

Two of the younger physicians interested in oncology were chosen and made associates in the tumor department. During the past four years, these men have assisted the consultant in all operations and have acquired a knowledge of the principles involved in cancer surgery. They have been trained in the handling of radium and in the physics and practical application of x-rays and gamma rays. They have also had invaluable instruction and guidance in diagnosis of tumors and their treatment.

The associates see the new cases on admission, take histories and do complete physical examinations. They diagnose and do preliminary work, such as obtaining specimens for laboratory and pathologic study. They have become capable of doing all endoscopic work necessary. The duties of the roentgenologist are to take diagnostic films, read them and direct all high voltage treatments. The consultant sees all new cases and concurs in



This room is used for cystoscopic and urologic examinations.

or corrects the course of treatment outlined by the associates. His judgment guides the entire organization. He is an executive, a physician and a teacher.

The clinic has at its disposal a suite of fifteen adjoining rooms in the out-patient department of the hospital, accessible from the street. There is a waiting room with a capacity of fifty patients, appropriately furnished. Patients are interviewed by the social service worker in a small office just off the waiting room. A consultation room has been comfortably furnished and is used for private discussions and conversations. The main office is equipped with a large soft settee, several soft chairs, a desk, and files. The main examining room is equipped with two dental chairs, a sputum basin with running water, a compression and suction machine, a dressing carriage, a carriage for a battery set and a

high frequency machine, an operating table, a sterilizer, a radium assembling table and several instrument cabinets. It is equipped with gas and running hot and cold water. There is a large closet painted black in which, on a shelf, are various transilluminating quartz lamps. It is used for transilluminating tumors.

The dressing carriage, the battery set carrier and the sterilizer table, of monel metal, were specially designed for this clinic. The radium assembling table is of monel metal covered with a heavy layer of lead. On this table is a thick lead shield to protect the worker.

There are two smaller examining rooms, adjoining which are the x-ray units. The x-ray department consists of eight rooms, with a dark room, a room for viewing plates and stereos, an office where records are kept, a room for the diagnostic unit, one for fluoroscopy, a toilet, a room for cystoscopic examinations and urologic examinations and a lead lined room for high voltage x-ray treatments.

The main examining room is equipped to do minor surgery, endoscopic examinations such as direct and indirect laryngoscopy, oesophagoscopy, bronchoscopy and proctoscopy. The endoscopic instruments are kept in a cabinet with long endoscopic atomizers, a salpingograph, and instruments for performing sialograms. In another cabinet are kept special radium applicators. A special bomb board is available for use on the wards. Suitable headlights are conveniently



Two types of radium carriers.

placed near the examining dental chairs. The dressing carriage carries surgical instruments, bandages, gauze, dressings, solutions, specula, vaginoscopes, a directoscope and various types of biopsy forceps.

The 151 milligrams of radium is in a unique form particularly convenient and practical for clinics which can afford only a small supply of radium. It is in the form of small platinum filtered cells measuring 12 mm. long and 1 mm. in diameter. We have fifty-five cells each containing 1.3 mg. of radium element salt, with a filtration of

GROWTH OF THE TUMOR CLINIC

	1932	1933	1934	1935
New patients.....	135	200	224	288
Clinic visits.....	523	830	1,782	2,621
Clean-up visits.....		370	600	1,295
Doctors referring patients...	42	66	81	103
Towns represented.....	24	45	36	55
Biopsies taken.....	39	37	137	176
Patients hospitalized.....	20	42	89	108
Patients treated in clinic.....	60	111	137	177
Malignant tumors.....	63	100	95	154
Benign tumors.....	59	89	118	116
Undiagnosed cases.....	13	11	11	18
Deaths.....	16	12	39	48
Special examinations.....		17	36	63
Surgical procedure.....		12*	107	119
Radium applications.....		50	111	113
X-Ray treatments.....		235	493	1,260
Aspiration biopsies.....				108
Photographs.....		14	137	149

*This figure represents surgical procedures during the last five months of 1933.

0.2 mm. of platinum, and seventeen cells each containing 3.3 mg. of radium element salt with a similar filtration but washed in gold to differentiate them. We also have eighteen small seeds measuring 7 mm. long and 1 mm. in diameter and containing 1.3 mg. of radium element salt, and with a filtration of 0.3 mm. platinum.

All these cells are kept in a specially designed lead lined carrier, the floor of which is a block of lead with tiny perforations to hold the individual cells. These cells can be used in various shaped plaques with a filtration of 2.0 mm. of brass, in platinum capsules with filtration of 0.5 mm. of platinum, in brass capsules with a filtration of 1.0 mm. of brass, in the bomb with filtration of 2.0 mm. of brass, and in small platinum needles with a filtration of 0.3 mm. of platinum. They can be used imbedded in dental modeling compound, in trays and in various sized needles. We have found ten to twelve of each type of gold needle sufficient. We have a one-cell type, a two-cell type and a four-cell type; all with platinum-iridium points and with a filtration equivalent to 0.3 mm. of platinum.

All the radium and the needles are kept in a safe, built in a closet in the main office of the

clinic. For very small lesions where radon seeds are indispensable we buy them from the Memorial Hospital in New York City.

The social service department of the hospital has cooperated by taking responsibility for ascertaining the financial status of cases admitted to the clinic. It also renders invaluable assistance in follow-up studies. Patients who fail to respond to form letters are visited personally by the social service worker.

The personnel of the tumor clinic have made every effort to carry out an educational campaign among the general practitioners in the vicinity. During the year 1934-35 a monthly conference was held at which numerous tumor cases were presented and discussed. Diagnostic features and treatment were then outlined. During the past year three symposiums were held, one on carcinoma of the cervix uteri, one on carcinoma of the breast and one on carcinoma of the stomach. Letters and notices of these meetings were sent to physicians. These meetings were popular and we plan to continue them. We have also made efforts to carry on an intensive campaign among the lay public, emphasizing early diagnosis. Illustrated talks have been given to various societies by the associates.

During the four years' operation of this clinic there has been a steady growth, 852 patients having been referred from seventy towns with a total population of 742,000, all situated within a radius of thirty miles.

The accompanying table gives a general idea of the amount of cancer work there is to do in this vicinity, work which before the organization of this clinic was either not done or not properly done. We feel that a gap in the line of attack against cancer has been filled, and we endorse whole-heartedly such an organization for every community in the land.

Lessening Dish Breakage

When the dish breakage at a large university hospital totaled 95 per cent during one year, a study of means to alleviate this high percentage was begun, according to the Journal of the American Dietetic Association. It was found that a cup should be chosen which does not flare dangerously high above the saucer, and the handle on the cup should be an integral part of the whole cup.

Glasses should be shaped to prevent stacking; it is impossible to pile barrel shaped glasses inside each other. Pitchers should have a broad base so that they will not easily upset.

Small dishes should be heavy enough in weight so that they will not slip through fingers too easily. A dish washing rack for cups, constructed so that cups fit into it and are separated, reduces one breaking hazard.

Someone Has Asked—

How Does Social Security Act Affect Proprietary Hospitals?

Specifically the question referred to a small hospital with from eight to twelve employees—bookkeeper, secretary, laundress, cook, janitor, head nurse and a varying number of student nurses—which is incorporated for profit. From the office of the commissioner of internal revenue comes the following: "You are advised that on the basis of the facts presented, it is the opinion of this office that the individuals in question, including the student nurses, are employees of the hospital and are liable for the employees' tax imposed by Section 801 (Title VIII); also the hospital, as their employer, is liable for the employers' tax imposed by Section 804 (Title VIII) and for the excise tax imposed by Section 901 (Title IX) of the act.

Does Clinician or Pathologist Control Autopsy Specimens?

This question arises from time to time, particularly in institutions engaged in teaching. Whenever staff members are accustomed to report interesting disease conditions occurring on their service, it is not always clear whether an unusual pathologic finding should be recorded by the clinician treating the patient or by the pathologist discovering it.

Occasionally an aggressive pathologist insists that since he performed the postmortem examination, he should be permitted to report his findings. The specimens removed are, of course, the property of the hospital and its museum. The clinician having treated the patient and having secured a permission for autopsy desires the pathologic findings to make his report complete.

The claims of the clinician, certainly, should not terminate with the life of the patient. His interest surely continues. He should be encouraged to report unusual clinical pictures and it should be his prior right to include the postmortem findings in his report. Sometimes through a gentleman's understanding between the physician and the pathologist, such cases are reported conjointly. If this is not the case, the pathologist at least, should be given credit for having performed the au-

topsy and discovered and described tissue changes there discovered.

Most executives believe the clinician possesses a priority of claim for the use of pathologic specimens discovered in his patient at autopsy.

How Should Narcotics Be Prescribed?

There exists much careless handling of narcotics in the average hospital, although federal and state government regulations for the prescribing of and accounting for narcotics are explicit. The intern, of course, although an unlicensed physician, may prescribe not only narcotics but any drug in the name and by the authority of his chief. P. R. N. orders for narcotics should be forbidden.

Each chief should sign the chart orders for opiates upon his next visit to the hospital after the intern has written the order. Standing orders for narcotics should be interdicted. Members of the visiting staff should fully cooperate in complying with the order of the administrator that all charts must be promptly signed when narcotics are used and that the utmost parsimony be practiced in the use of such potent drugs. The ever present danger of the use of opiates for non-therapeutic purposes should be continually borne in mind.

Should Doctor Charge for Services in Accident Ward?

The superintendent of an Eastern hospital has asked this question, founded upon the following circumstances.

The victim of an automobile accident was brought into the hospital's accident ward. His economic status was unknown to the attendants. A staff surgeon was called who set a fracture and attended to numerous lacerations. Later the patient was transferred to a private room under the care of another staff physician. The first surgeon attending the case felt that he

should be permitted to render a bill for his services.

A questionnaire recently sent to a number of institutions revealed the fact that in many hospitals the accident ward patient is treated by one of the resident staff. If he is later transferred to a private room it is only then that he may be charged by a visiting surgeon for medical care. In other words, every patient admitted to the accident ward by these institutions takes on the status of a free patient.

In other hospitals when a staff surgeon renders emergency treatment and later continues this care in a private room the physician's bill may and does include services rendered in the emergency ward.

It would seem hardly fair for a patient of means to receive the attention of a skilled staff surgeon and later be required to pay a fee to another who has rendered a much less valuable service while the former has been allowed to make no charge. If a resident physician, however, rendered first aid, no fee can be exacted of course.

Should Nurse Charge Less Than Published Rate for Services?

Most hospitals have a published rate card covering the services of graduate nurses on private duty. These prices apply to the services of the nurse and to the board which the hospital charges for her maintenance. The latter item the hospital can and should fully control.

If a nurse chooses to accept a case for less than the published rate this appears to be a matter which chiefly concerns herself. It is relatively of little interest to the hospital. To prevent her from working for a fee which while satisfactory to the nurse is lower than the maximum rate agreed upon, smacks of unionism and would compare in effect to a hospital attempting to regulate the personal relationships existing between the patient and the doctor.

The hospital surely may demand that a nurse comply with a maximum fee schedule. The minimum limit which she herself cares to fix is a matter only concerning herself, her patient, the doctor and her profession. The hospital is not a party at interest in this matter.

If you have any questions to ask, the Editors will be glad to discuss them in a forthcoming issue

Buying in a Big Way

PURCHASING procedure in a large state mental hospital involves the following major steps:

1. Purchase request. (Requisition)
2. Budget control.
3. Purchasing control.
4. Listing materials, commodities and supplies into classes.
5. Detailed specifications for each item in the respective classes.
6. Determining the quantity of each item required for (a) stores stock; (b) direct delivery to the department head for immediate use; (c) delivery weekly, semiweekly and monthly upon contract basis.
7. Lists of bidders.
8. Tabulation of bids and basis of award.
9. Receiving, checking, accepting and rejecting supplies.
10. Checking of invoices.
11. Stores inventory and requisitions.

The first step to intelligent purchasing originates in the purchase request made by storekeeper or department head. The specifications applicable to each article should be stated. Where

By HORACE W. COOPER
and HENRY I. KLOPP, M.D.

standard specifications do not apply the article should be described in detail. This information is essential if the purchasing department is to function effectively.

There must be definite and effective budget control over expenditures if the diversified activities of a mental hospital are to be equitably maintained and provided for within rather restricted appropriations. The accountant functions in the capacity of budget control officer and purchase requests pass over his desk for budget approval before they are finally approved by the superintendent for purchase.

Purchasing control should be delegated to one person. In most large state mental hospitals the steward is in charge. All purchase requests clear through his office and he is responsible for the ramifications incident to economical purchasing of the supplies, commodities and equipment.

COMMONWEALTH OF PENNSYLVANIA		LOCAL PURCHASE PROPOSAL		Allentown State Hospital		
Welfare Department		Institution		Address		
DATE	JUNE 1, 1935	SERIAL NO.		IDENTIFICATION NO.		
OPENING DATE	JUNE 12, 1935	AT	2 O'CLOCK P.M.-E.S.T.	AMOUNT OF SECURITY	NONE	
CLASS OF COMMODITIES	Groceries					
CONTRACT PERIOD	JUNE 15/35 to SEPT. 15/35					
SHIPPING INSTRUCTIONS	F.O.B. Allentown, Pa.					
WHEN WANTED:						
TO THE COMMONWEALTH OF PENNSYLVANIA		Institution Allentown State Hospital				
Department of Welfare		Address Allentown, Pa.				
<p>I hereby offer to supply the following articles in the quantities specified for the prices specified. This proposal is subject to all of the terms and conditions appearing on the reverse side of this sheet. We agree that the Commonwealth may accept our proposals on any of the articles listed below and that it may draw a line through any of the articles for which our proposal is rejected.</p>						
Specification	Grade	Commodity	Quantity	Unit	Unit Price	Total
P.S.F20	Choice	Apples, evaporated 50# bxs.	1500	lb.		
P.S.F20	Std.	Apples, evaporated 50# bxs.	1000	lb.		
P.S.F20	Choice	Apricots, dried, 50# bxs.	1500	lb.		
P.S.F20	Std.	Apricots, dried, 50# bxs.	1500	lb.		
P.S.F20	Choice	Currents, Patras, dried, 25# bxs.	200	lb.		
P.S.F20	Choice	Currents, Amalias, dried, 25# bxs.	200	lb.		
P.S.F20	Choice	Peaches, evaporated 50# bxs.	4500	lb.		
P.S.F20	Std.	Peaches, evaporated 50# bxs.	3000	lb.		
P.S.F20	20/30	Prunes, 25# bxs.	3000	lb.		
P.S.F20	30/40	Prunes, 25# bxs.	500	lb.		
P.S.F20	50/60	Prunes, 50# bxs.	4500	lb.		
P.S.F20	Choice	Raisins, Seedless, Thompsons, 50# bxs.	3000	lb.		
P.S.F20	Choice	Raisins, Seedless, Sultanas, 50# bxs.	1500	lb.		
P.S.F20	Choice	Raisins, seeded, Muscat, 30# bxs.	1500	lb.		
P.S.F20	Choice	Pears, evaporated 25 or 50# bxs.	1000	lb.		

Jackson Brothers
Black and White Company
A. B. C. Company
Jones & Smith, Inc.
Allen and Sons
Alpha Food Company
Williams & Company
Johnson Importing Co.

.1017	.0950	.0848	.0618	.095	.1031
.1017				.0924	
.1592	.1734	.1775	.1598	.165	.1445
.1592	.1485	.16		.1437	.1446
.1142	.1234	.1750	.11		.1194
.0892	.1234				.1167
.0892	.0938	.0925	.0848	.0839	.0843
.0892					.0818
.0928	.0832	.09	.0898	.0945	.0924
.0928	.0814	.09875	.0898	.074	.0735
.0543	.0974	.06	.0588	.0555	.0605
.0547	.0974	.06	.0548	.0555	.066
	.0544	.06			.0552
.0682	.0653	.0725	.0718	.0623	.06
.0728	.0635			.0725	.0769

ARTICLE: OXYGEN				ALLENTOWN STATE HOSPITAL ALLENTOWN, PENNSYLVANIA						SCHEDULE	F	
										CLASS	9	
										ITEM	6	
DATE ORDERED	ORDER NO.	QUANTITY ORDERED	DATE RECEIVED	QUANTITY RECEIVED	TRANSPORTATION CHARGES	ITEM VALUE (INVOICED)	CHARGEABLE TO	BRAND NAME OR TRADE NO.	UNIT PRICE	UNIT OF MEASURE	VOUCHER NO.	FROM WHOM PURCHASED
5/28 1932	E67779	2	5/31 1932	2 CYL		2 00		40 GAL EA	1 00	CYL	3108	S S WHITE DENTAL
12/17	E75431	1	12/24	1 "		1 00		40 " "	1 00	"	5120	" " "
		1		1 "		7 30		1150 " "	7 30	"		" " "
1933			1933									
4/24	E80225	1	4/26	1 TANK		1 00		40 " "	1 00	"	6135	PHILA PURE
		1		1 "		1 30		1150 " "	1 00	"		OXYGEN CO
5/8	E80243	1	5/10	1 "		1 00		40 " "	1 00	"	6291	" " "
8/1	E86639	1	8/8	1 "		1 00		40 " "	1 00	"	668	S S WHITE DENTAL
1934			1934									
3/8	E89086	1 CYL	3/8	1 CYL		7 30		1150 " "	7 30	"	2435	PHILA PURE
7/17	E99509	1	7/20	1 "		7 30		1150 " "	7 30	"	3545	OXYGEN CO
		1		1 "		1 00		40 " "	1 00	"		" " "
8/29	E99650	1	9/1	1 "		7 30		1150 " "	7 30	"	3941	S S WHITE DENTAL
1935			1935									
1/18	E99842	1 CYL	1/23	1 CYL		7 30		1150 " "	7 30	"	5105	" " "

Information on the purchase order is transferred to the purchase record card, of which this is an example.

To place purchasing upon a systematic basis requires the grouping of commodities into classes. The items in each class should tie in with the accounting system and be arranged on the bidding schedule according to trade groups rather than alphabetically. The trade group arrangement affords the opportunity of several breakdowns within a class, so that specialty dealers may receive only items in which they are interested. This method reflects a saving on stationery and postage.

Detailed Specifications Needed

To establish a basis of understanding between buyer and seller requires the use of detailed specifications for each item. The specifications should definitely establish the quality of the article. The Federal Specifications Board has been working along these lines for several years and their work has been supplemented and augmented by the specifications division of the bureau of standards of the Commonwealth of Pennsylvania. Detailed specifications, however, are practically worthless unless deliveries are checked against them. This method of purchasing on definite specifications is used by the Commonwealth of Pennsylvania and is proving efficient, effective and economical; it affords the widest possible competition which is essential in a political unit.

The U. S. Department of Agriculture, Bureau of Agricultural Economics, also maintains a grading service for certain food items, which certifies that the contractor is furnishing the grade called for in the specifications. This grading service is available for commodities such as meats, butter, eggs, cheese, rice and just recently an attempt has been made to establish a grading service for canned goods.

Prior to embodying grading certification in our specifications for the above commodities, there were periodic controversies with contractors as to the quality of deliveries, controversies which in many instances placed the institution at a disadvantage. However, upon instituting the grade certification requirement controversies have been eliminated entirely. The federal grader is not interested in the price at which the bidder accepted the contract, but rather in the quality called for in the grade specified and the federal agent's decision is based upon the grade factor exclusively. If market prices advance during the contract period the institution is nevertheless assured of uniform quality. This was not always the case when federal grading was not a prerequisite.

The quantity to be purchased depends upon such factors as storeroom facilities, keeping quality, local demands, seasonal supply, price cycles and funds available.

Staple items, on which there is a constant turnover, should be carried in the storeroom on perpetual inventory and cleared through stores account on a stores requisition.

Items required infrequently or used by only one department are received, checked and issued through the storeroom and not carried through the perpetual inventory system. This would apply to such purchases as supplies for laboratory, pharmacy, general repair and maintenance items for the engineer and electrician, and to perishable items.

Contracts on Quarterly Basis

Contracts for general food commodities are made upon a quarterly basis: Contracts for meats, butter and eggs call for delivery weekly; coffee, for delivery semiweekly; cheese, cereals, dried

fruits and dried vegetables, for delivery monthly; flour and canned goods, for delivery quarterly.

Fresh fruits and vegetables are purchased upon a thrice-weekly basis. Quotations are solicited by telephone from six local firms and items are awarded to the respective low bidders. All deliveries are made subject to our acceptance or rejection.

List of Bidders Should Be Obtained

A list of bidders, affording the widest possible competition, is desirable. Excellent mediums for locating first sources of supply are "Thomas' Register of American Manufacturers" and The HOSPITAL YEARBOOK. An excellent arrangement for setting up specifications in divisional groups is a card file with the item and specifications noted on one side of the card and the names and addresses of prospective bidders indicated on the other side.

All bids are tabulated and the several items awarded to the respective low bidders where specifications definitely establish the quality and it is possible to check on deliveries either by visual examination or through laboratory analysis. In other cases samples are requested. This latter method has been the procedure, especially in purchase of canned goods. Packers' grades have not been uniform and there is comparatively little relationship between prices quoted and qualities offered.

It has been found desirable, after tabulating the bids, to order two sample cans from each of the three or more lowest bidders, to be invoiced at the bid price. One can from each is coded. A committee of three or more persons representing the dietary department, then cuts, inspects, tastes and weighs the contents of the coded cans, deciding which meets the requirements upon a quality basis. The second can of the accepted lot is retained to check against the delivery. This pro-

cedure should be unnecessary if the contemplated federal grading service materializes for canned goods.

The receiving and checking of supplies at the institution plays an important part in efficient purchasing. All deliveries must be weighed, counted or measured. The receiving agent is provided with a copy of the purchase order with quantities deleted. The receiving agent may be the storekeeper or a department head depending upon the material or commodity.

The detail noted thereon is complete as well as concise and gives the accounting office the essential information required for checking the invoice and for entering on the perpetual inventory and purchase record cards.

Where it is readily apparent to the receiving agent and the steward that an item is not in accord with the description or specifications noted on the purchase order the vendor is immediately notified of the rejection and a replacement lot is requested. In cases where a laboratory analysis is required the delivery is held pending the laboratory's report, or a portion may be used if necessary and in such cases should an adverse report be received from the laboratory a price adjustment is usually made on that portion consumed.

All items returned, sold or sent out for repairs are entered on the "Report of Outgoing Shipments." This form is a distinctive color that may be easily identified.

Invoices in Quadruplicate

Firms are requested to forward invoices, in quadruplicate, direct to the institution. Invoices are passed to the accounting office for checking as to unit prices and extensions against the respective purchase orders and against the receiving agent's report as to quantity, weight and other factors. The accounting office fills in the unit price and value columns on the storekeeper's receiving

ALLIANTOWN STATE HOSPITAL														
WEEKLY INVENTORY CHECK														
														Date Posted 8/10/35
Date Last Entry on Card	Quantity on Card	Value on Card	Name of Article	Quantity Received Not Posted	Quantity Delivered not Posted	Quantity Counted 8/10/35	Acct. No.	Unit Price	Value	Quantity— Received	Adjustment Delivered	Value— Received	Adjustment Delivered	Date of Last Inventory Value
8/10/35	22	2.66	Coffee	550#		572 lbs.	4322.1	lb.	.1215	69.48	---	---	---	7/13/35
7/13/35	---	---	Cornmeal			None	4322.1	lb.	.02504	---	---	---	---	7/13/35
8/10/35	280	11.48	Cornstarch	1180#		1400#	4322.1	lb.	.041	57.40	---	---	---	7/13/35
8/10/35	1176	26.59	Brass Flour			1176#	4322.1	lb.	.022602	26.59	---	---	---	7/13/35
8/10/35	---	---	Whole Wheat Flour			None	4322.1	lb.	.020362	---	---	---	---	7/13/35
7/26/35	10	2.97	Granulated Gelatine			10 lbs.	4322.1	lb.	.297	2.97	---	---	---	5/31/35
8/10/35	67	13.20	Dessert Gelatine			67 can	4322.1	can	.197	13.20	---	---	---	7/27/35
8/3/35	---	---	Baking Powder	240#		240 lbs.	4322.1	lb.	.04	9.60	---	---	---	7/13/35
7/13/35	70	2.06	Baking Soda			70 lbs.	4322.1	lb.	.0294	2.06	---	---	---	7/13/35
8/10/35	625	61.13	Tea			625 lbs.	4322.1	lb.	.1298	61.13	---	---	---	7/13/35
8/3/35	4	.45	Shredded Wheat			4 pkgs.	4322.1	pkg.	.106	.42	---	---	.03	7/27/35
8/10/35	---	---	Lard			None	4322.1	lb.	.1342	---	---	---	---	8/3/35
7/31/35	249	133.44	Asparagus			248 can	4322.2	can	.53597	132.92	---	---	.52	5/31/35
8/8/35	512	180.78	String Beans	84 can		596 can	4322.2	can	.34889	207.94	---	---	---	5/31/35

This is a portion of a weekly inventory check.

report and postings are made therefrom to the perpetual inventory cards and purchase record cards.

All invoices are stamped as follows:

Date material received.....	
Received by.....	Rec. No.....
Price checked by.....	
Extensions and Additions checked.....	
Purchase Request No.....	
Purpose.....	
Charge to Code Account.....	
Purchase Order No.....	
Examined.....	Steward.....
Approved.....	Sup't.....

The data must be filled in by the accountant, and the steward's and superintendent's signatures obtained, before the invoice is requisitioned for payment and transmitted to the proper fiscal officers.

As previously stated staple items are carried on perpetual inventory. Postings of purchases are made following receipt of supplies and their subsequent checking and acceptance. The supply issue is controlled on a weekly basis for all departments and wards excepting the food items issued to the kitchens. Staple food items are issued thrice weekly from stores to the main kitchen storeroom from whence they are controlled by the assistant steward, the issue being based upon the immediate day's requirements. Meats, butter, eggs and other perishables are issued daily.

Requisition Form Made in Triplicate

A bookkeeping machine system is used in posting stores receipts and issues and the requisition form is designed to tie in with this system. This form is in triplicate and is filled out by the department head, examined by the steward and approved by the superintendent. All three copies are sent to the storeroom. The storekeeper indicates the quantities delivered and account number; obtains the necessary signatures; sends the triplicate copy with the supplies, and the original and duplicate are sent to the accounting office.

There is room for six items on each requisition and there is a perforation between each item. This is for simplification and accuracy in posting issues to the perpetual inventory cards. The perforation affords the separation of all items into groups applying to the same stock card. The respective items are then totaled and one posting made. This method tends to greater accuracy than is possible under the method requiring the transferring of the figures to respective item columns and then totaling.

Emergency requisitions are discouraged but when necessary are handled on a separate form.

In order to assure a constant check on the per-

petual inventory cards, 125 items — several from each class — are selected weekly by the accounting office and an actual count made; any subsequent adjustments which may be necessary are made on the stock card. This method affords a complete inventory turnover at least four times each year in addition to the regular complete stores inventory which is taken yearly.

In preparing this paper we have confined our discussion to the purchase of food items primarily because these are more generally standardized. Standardization is however practical for the general run of hospital supplies. The specifications division, Department of Property and Supplies, Commonwealth of Pennsylvania, has promulgated detailed specifications for thousands of items covering household, laundry, dietary, bedding, clothing, maintenance, medical and surgical supplies and equipment, insecticide and spraying materials and feeds and forage for live stock.

Various committees function in the development of standards for various department needs. No specification becomes the accepted standard to serve as a basis for purchase until it is approved by its several manufacturers and a majority of the institutions and agencies within the respective departments, boards and commissions in the state government that use the article covered by the specification.

The purchasing method as described in this article outlines the general procedure followed in a large state mental hospital. The solicitation of bids upon a quarterly basis, however, cannot be rigidly adhered to if one desires to purchase economically. The purchasing agent must keep in touch with the markets, seasonal conditions, changing trade practices and legislation affecting commodity prices. The standard purchasing procedure must be adjusted to meet current conditions. It should not become stereotyped.

Patient-Nurse Relationships

A sorry world this would be if we all liked the same people and the same things. Every doctor and nurse should have professional ability, personality, tact, common sense and a sense of humor. Even so every doctor or every nurse does not suit or please every patient. Often a change of physician is made which is no reflection on the individual. The same is true of institutions and nurses. If friction occurs between a patient and a nurse, a change is wise. Patients should not be allowed to feel that night nurses are inferior. The hospital is on duty twenty-four hours—the patient does not cease to be ill at 7 p.m. and resume that illness the following morning. Therefore the staff should be as competent on one duty as on the other. Nor should nurses disregard the simple etiquette of allowing the patient to have a few minutes alone with the attending physician.—*Esther M. Johnson, R.N.*

Avoiding Mistakes in Building

By M. H. FOSTER, M.D.

USUALLY officers responsible for the final approval of hospital plans sign the drawings after seeing the final floor layout, and believe that the mechanical constructors can be trusted to install equipment properly. This is, however, by no means always the case.

Electrical engineers will not always insert sufficient electrical outlets unless they are particularly requested to do so. In checking up this one must visualize the furniture, desks or other apparatus which will be placed in the room and outlets must be provided accordingly. It is better to have too many than too few. In offices provision must be made for electric fans, desk lamps, comptometers and other needs not definitely established. In private rooms there should be outlets for radios, electric fans, reading lamps, floor lamps possibly and at least two outlets at the bed for electrical appliances used in treatment. In the wards the same rules apply.

The location of telephones should be decided upon at the time the electric installation is being sketched out. Lines should be run so that desk telephones can be installed wherever desired. Modern practice places these wires under the floor diagonally.

"Talk Back" Systems Save Time

It is an excellent plan to run conduit from the various offices to the central administrative office, so that an intercommunicating office system may be installed later. Dictograph or "talk-back" systems now available save time for the administrator in getting contact with his subordinates without going through a telephone exchange.

Radio installations are being supplied in many hospitals so that every bed patient can plug in earphones. If the hospital does not have a central radio system, it is comparatively easy to provide in private rooms a special antenna connection and ground at each bed. The same installation is practicable for the nurses' home and the employees' quarters.

It is very cheap to put in conduits when the

Every administrator should read these suggestions before he endorses plans for his new hospital building

building is being built, but costly and unsightly to run wires on the outside of walls after the building has been finished.

In corridors there should be three grades of illumination. First, a night light for nurses, which should not be any more than is absolutely required. Second, there should be sufficient illumination so that the corridors are not too dark on rainy days. Third, adequate light should be supplied for cleaning the corridors.

Sometimes the last two may be combined, but the plan of having electric fixtures in the corridors so wired that every other one may be turned off is far from desirable for night illumination. Such an arrangement gives too much light in some areas and causes unnecessary consumption of electric current. Furthermore this light may be annoying to patients whose doors are open near the source of illumination. It is better to have at least two different lamps in each fixture and better still three, all on independent circuits. The extra expense at the time of installation is not great.

Electric fixtures having shades which can be readily removed for cleaning purposes are much better than those which are fastened on by screws.

Electric signs should be on different circuits from the corridor lights, because it may be desirable to have them lighted when the corridor fixtures are not required. Nowadays electric signs are much used and give any building a modern appearance. They should be so placed that they will not obscure each other, electric clocks or exit signs.

Concrete floors are not satisfactory in laboratories because the dust they give off interferes with fine bacteriologic work. It is a common practice to build a washboard of concrete with a narrow strip of the same material on the floor along the washboard in corridors, wards and sim-

ilar places, and then to have the main part of the floor covered with linoleum.

Unless this concrete strip is colored to match the linoleum, the results are not satisfactory. The uncolored concrete quickly becomes spotted and unsightly, and if it is painted, wherever it is walked upon the paint wears off and the appearance is bad. Concrete absorbs oil readily and is stained thereby. These marks are difficult to remove. Frequently concrete floors and corridors are spattered with oil in the course of the erection of the building. This has to be carefully guarded against.

Mastic tile is cheaper than linoleum and withstands ordinary destructive agents well. It is, however, badly affected by oil or grease and in hot weather it softens, and the legs of beds, desks, chairs and other articles make deep depressions therein unless they are placed in coasters. When these floors are used a large supply of coasters should be on hand before the furniture is carried in.

Rubber floors are highly satisfactory. Care should be taken in selecting colors. Alternate patterns of white and black are always attractive but show muddy footprints.

Soundproof Corridor Ceilings

Floors for use in corridors and halls should be studied in regard to acoustical effects, as some floors are noisy when walked upon. It is a good practice to put acoustical ceilings in all corridors, as the flip-flap of feet on certain types of floors is annoying in long passageways and resounds throughout the building.

The tendency in modern construction is to make the washboard entirely too low. As a result when ordinary mops are used in cleaning the floors the wall above the washboard is apt to be soiled. Washboards should be high enough to prevent this, on steps as well as in other places.

The outside of staircases should be protected by suitable washboards, as well as the inside, otherwise wash water from the steps will run down and drop on the areas below, also staining the side members supporting the steps.

Placing hand rails on both sides of stairways will save the walls from becoming soiled as some patients place one hand on the rail and the other on the opposite wall.

The lower part of corridor walls for a height of about 5 feet frequently becomes soiled by finger-marks, and in places where patients or others congregate and lean against the wall it is often marked at lower heights by their clothing and by their shoes. This necessitates repeated washing of such walls. It is a common practice to paint

the walls a slightly darker color up to a height of about 5½ feet to overcome this difficulty.

A better plan is to run a strip of metal molding at about this height along the wall, so that the wall may be washed up to the molding when necessary without cleaning its entire surface to the ceiling. It also acts as a guide in painting the lower part of the wall a darker shade if this is desired. If such moldings are included in the planning, care should be taken that they are placed at the right height.

For the protection of plastered walls all rooms occupied as living quarters should be provided with picture molding for the hanging of pictures.

In selecting colors for the tiling of walls one should look at the sample from various angles, as the color of tile changes considerably according to the amount of light thrown upon it. In determining colors for painted walls it is well to avoid grays and greens for the most part, as these shades when slightly dirty or faded are apt to have a depressing effect. Light tans with cream ceilings make a durable and attractive color scheme. One may then choose brown, green, yellow and rust colored upholstery and rugs to go with the walls.

For operating rooms, French gray tile or glass tile is better than green, although both gray and green tile are suitable, not changing their colors as do painted plaster walls.

The final coat of paint for walls should be waterproof, to permit frequent cleaning. As waterproof paints contain a certain amount of varnish, they are apt to have a glossy finish. To overcome undesirable light glare from such glossy surfaces the last coat should be stippled, which really makes a better finish. Most so-called flat enamels stand washing well.

Radiators should be set off the floor and supported by side members from the wall. The same applies to lavatories and toilets. This greatly expedites the cleaning of bathrooms and living rooms.

Morgue Should Be Remote

The morgue should be sufficiently remote from the occupied parts of the building that odors emanating therefrom are not carried into the hospital proper. On the other hand, it should not be so placed that interns and staff have difficulty in reaching it. It must also be convenient to an outside roadway, so as to provide means of access for undertakers. A near-by detached building with a connecting corridor makes an excellent solution of this problem, and the cellar under a morgue so located is a splendid storehouse for x-ray films or therapeutic gases.

Minimum requirements now for the proper care of hospital waste demand a space opening on to a loading platform where the garbage may be properly cared for until it is removed from the institution. This space should provide at least three different compartments—one for the storage of garbage proper; one for the storage of trash, such as newspapers, pasteboard boxes and other objects; one for the reception of hospital dressings, sputum cups, pathologic specimens and other material which must be destroyed by fire.

In addition to this a room should be provided in which garbage and trash cans may be received and washed and where cleaned cans may be stored. Empty cans should be rinsed with hot water, then scalded with hot soap and water and rinsed again. The contents of cans so treated do not ferment and putrify with the same rapidity as garbage kept in cans that have not been properly cleansed.

Garbage Problems

In certain parts of the country it may be desirable to provide the garbage room with refrigeration. If the garbage is chilled to too great a degree the grease solidifies so that it is almost impossible to get the contents out of the cans in cold weather or if the temperature of the room goes below 45 degrees; hence it may be necessary to have the garbage storage room heated in winter and refrigerated in summer. In temperate climates refrigeration is not so necessary in summer if the cans are properly and thoroughly cleaned before the material is placed in them.

The garbage receiving station and storage rooms must be fly-screened, and the floors of each compartment should be sloped to a central drain which has an efficient grease trap. Facilities must be provided in each room for flushing floors with hot water.

All hospitals suffer from a want of adequate storage space. It is better to have a number of small storerooms than a large one of the same cubic content, because it may be convenient to allow an employee to have access to a certain part of the stores without permitting him to have the same privilege with all. For example, furniture cotton cloths, and the like should not be kept in an open storeroom along with silverware, valuable surgical instruments, and other articles easily removed without detection.

Carpenter, paint and mechanical shops are almost essential in keeping up the equipment of the hospital. These should not be afterthoughts, placed in some spot in the basement which might be available, but should be provided for in the original plan and located advantageously.

For the most part these shops should be combined with the mechanical plant, that is, the heating plant of the building. When oil is used as fuel and the law requires that a fireman be in constant attendance, it may be feasible to place a shop in connection with the boilers, or at least a bench with tools, so as to permit the fireman to utilize part of his time in repairing equipment.

Despite popular notions to the contrary, air conditioning is expensive, and probably will continue to be so until a cheaper form of power is discovered. It may be safely stated that the cost to cool a house in summer is equal to the amount required to heat it in winter.

The installation of air conditioning after a building has been completed is expensive, but the cost is by no means so great if the installation is made when the building is erected. When air conditioning is used the building must be made tight insofar as admission of air from the outside is concerned, and it may be remarked that buildings so constructed are much more economical to heat in winter than the ordinary type.

Certainly in new hospitals, air conditioning should be given serious consideration, at least for a limited part of the building. The setting aside of a room in the basement for the location of the necessary apparatus, the construction of flues to the rooms which will be served and the making of the windows throughout the entire institution of the improved air-tight type will not be very costly. Later, when funds permit, the air conditioning system may be installed at less cost.

Relief for Asthma Victims

It is practicable if windows are sufficiently tight and suitable ducts are provided to filter and humidify the air in some parts of the hospital occupied by patients without attempting to reduce the temperature of the air by mechanical refrigeration. Such rooms are useful in the treatment of asthmatics and sufferers from hayfever, and may make the ordinary patient more comfortable at a low additional cost.

On the Atlantic seaboard difficulty is experienced in making buildings waterproof. With the hard rains and violent winds that prevail in this district, water is frequently driven into the side walls of the building, even though the roofs are entirely tight, causing much destruction to the plaster and annoyance to the occupants. To avoid this it is necessary that the inside or the outside walls be thoroughly waterproofed, which requires a great deal of thought on the part of architect and the supervising engineer. The contract should be so drawn as to ensure waterproofing of the most modern type.

PLANT OPERATION

Conducted by John R. Mannix and R. C. Buerki, M.D.

Sterilizing Surgical Instruments and Utensils

By E. E. Ecker, Ph.D., and Ruth Smith, M.A.

The second of a series of studies on methods of sterilization adapted to hospitals.

THE problem of sterilization of surgical instruments and utensils should resolve itself into one of real sterilization and not of relative sterilization as is commonly practiced. Sterilization as usually performed does not imply exclusion of all bacterial life. Sterility should mean a complete exclusion or destruction of all bacteria and their spores, and it is this state that is of such vital importance to the patient and the surgeon.

The average surgeon is familiar with the theories of sterilization or rather of relative sterilization, but few have a fundamental and practical knowledge of methods of sterilization. This fact has led to a variety of methods employed in general hospital practice. No two institutions observe the same rules. It is therefore important that some attempt be made to clarify and standardize procedures daily in use.

In order to secure some idea of procedures in common use, we sent out 207 letters to leading hospitals in all sections of the country and received 106 replies. Methods employed in these hospitals for the sterilization of dull instruments may be summarized as follows:

Boiling 10 to 30 minutes in water, 75 hospitals.

Autoclaving at 10 to 30 pounds, no temperatures given in majority of instances, 24 hospitals.

Combined boiling and autoclaving, 11 hospitals.

Boiling in 1 to 2 per cent soda water, 3 hospitals.

Methods of sterilization of sharp instruments and number of institutions are as follows:

A—Heating

Boiling from 5 to 30 minutes, 49 hospitals.

Heating in oil at 250° F., 10 hospitals.

Autoclaving 20 lbs. (temp. ?) 10 minutes, 18 hospitals.

Hot air oven—170° C.—60 minutes, 1 hospital.

B—Chemical

Chemical solution 3 to 20 minutes, 11 hospitals.

Glycerol cresol, 1 hospital.

Glycerol and carbolic acid, 1 hospital.

Lysol and alcohol (1:12), 2 hospitals.

Pure carbolic acid and alcohol rinse 3 to 30 minutes, 10 hospitals.

Alcohol 50 to 95 per cent, 6 hospitals.

Lysol 2 per cent, 2 hospitals.

Carbolic acid 5 per cent—alcohol rinse, 1 hospital.

Pure lysol, 6 hospitals.

20 per cent lysol, 2 hospitals.

Biniodide of mercury solution 20 minutes, 1 hospital.

Alcohol 70 per cent and soda soap (per cent ?), 1 hospital.

C—Combined Heat and Chemical

Boiling for 3 minutes and 10 per cent lysol, 2 hospitals.

Of the 106 replies received, 104 reported on the sterilization of linen and dressings. Again, the pounds pressures used were given but rarely the temperatures. The time varied from 15 to 75 minutes and the pressures from 15 to 20 pounds. Only seven reported temperatures varying from 240° to 259° F. (115.5° to 126° C.).

We received 105 replies on rubber goods. Of these, 93 autoclave their rubber goods and only 3 recorded the temperatures of exposure. The pressures given varied from 15 to 20 pounds and the time from 10 to 30 minutes. Twelve institutions autoclave and boil their rubber goods from 5 to 20 minutes.

Three methods were employed for the sterilization of glassware—autoclaving, boiling and chemical treatment. Of the 43 reports received, 30 autoclave glassware; 10 boil glassware; 3 use 70 per cent alcohol.

This survey clearly establishes the necessity of the introduction of standards. Obviously, several of the

methods now in common practice are fundamentally incorrect and only in a few institutions are the results of sterilization controlled on an experimental basis.

As early as 1881 Robert Koch¹ showed that a temperature of 140° C. or 284° F. and exposure time of 3 hours was required to destroy spores, yet sharp instruments are daily treated in oil baths at about this temperature for periods of only 5 and 10 minutes or even less. In many institutions hinged instruments are carefully oiled prior to boiling, and moist heat so vitally necessary for the swelling and coagulation of bacterial protoplasm does not reach the surfaces of such oiled instruments. Furthermore, the temperature of the boiling water is too low for the destruction of spores of various microorganisms even when the lids of the sterilizers fit closely.

Technique

Ordinary known pathogenic spore bearing organisms were not employed because it was deemed wise, in order to be on the side of safety, to use spores of more resistant microorganisms. For this reason, soil was employed which contained highly resistant spore bearing microorganisms.

Samples of garden soil were taken, dried and ground to a fine powder. The dried samples of soil were then submitted to steam in an Arnold sterilizer. One of our samples resisted an exposure period of 11 hours in the Arnold. This was determined by taking hourly samples and by culturing in deep column brain broth. The brain broth was boiled prior to use to drive off all air. All cultures were kept at 37° C. for a minimum of fourteen days.

The same soil resisted 15 pounds (121° C. or 250° F.) pressure for a period of 15 minutes but not for 30 minutes and it was also sterilized at 10 pounds (115° C. or 230° F.) pressure for a period of 30 minutes. Rodenbeck,² Konrich,³ Sobernheim⁴ and Walbum⁵ used earths of still greater heat resistance. In fact, Konrich's spores survived 30 hours' exposure in an Arnold sterilizer.

Since 1900, fats and oils have been extensively used in surgery but the importance of the fact that sterilization of waterfree substances requires higher temperatures and a longer exposure time has not been given proper attention (Holman and Carson⁶).

The following tests were made:

1. Our resistant earth was boiled in the proportion of from 0.25 grams to 1 gram per liter of water. One-fourth of one gram was placed in cylindrical filter paper tubes, dipped in 3-in-1 oil and then boiled.

2. Samples of 0.1 gram in filter paper tubes were heated in an oil bath at temperatures ranging from 120° C.

(248° F.) to 170° C. (338° F.) for periods of 15, 30, 45 and 60 minutes. The temperatures were carefully read from a thermometer inserted next to one of the filter paper tubes.

3. One-fourth of one gram soil packages (filter paper) were boiled in 2 per cent soda for periods varying from 15 minutes to 2½ hours. Unwrapped soil was also boiled in the 2 per cent soda water.

In other experiments samples of the earth were boiled in 2 per cent soda with the addition of from 1 to 6 c.c. of commercial formalin per liter.

Instruments (4 hemostats, 1 pair of scissors and 1 bone cutter) were treated with soil and oil and boiled for various periods of time in soda water and soda water with various concentrations of formalin. The loss of formalin was determined by the method of Jorissen (alkaline phlorogucol).

4. The same experiments were also performed with 0.5 per cent borax and borax with 0.05 per cent H₂O₂.

5. It was found that phenylmercuric benzoate (merphenyl benzoate) is highly oil soluble and that a 1 per cent solution can be made in 3-in-1 oil. This oil acquires bacteriostatic and bactericidal properties and will prevent growth of six weeks old aerobic earth spores to the extent of 2 cm. by the Alter and Wright plate method. The same holds true for Staphylococci.

6. Finally, sodium perborate solution (0.5 per cent) was contaminated with earth and boiled. Samples were taken every five minutes for a period of 30 minutes. As controls we implanted the dried soil in our brain broth media and kept control uninoculated media for several weeks in the incubator.

Experimental Results

Table I demonstrates the results secured by boiling the soil in tap water and boiling instruments contaminated by soil.

From this table it is seen that the earth spore bearers were not killed in a period of 2 hours' boiling (1 gm. of soil per liter of water) but when 0.1 of one gram was used the water became sterile at the end of 1 hour and 15 minutes' boiling. One c.c. samples of the stirred soil water were used for inoculation. From the oiled packages containing 0.25 gram of soil, resistant spores developed after 7 hours of continuous boiling.

Oiled instruments contaminated with soil resisted 2 hours' continuous boiling but when merphenyl benzoate oil 1 per cent was used to lubricate and to cover the soil on the instruments the boiling time was reduced to 30 minutes from 2½ hours. It must here be stated that the soil was dry and covered with oil, a fact which also inhibits rapid penetration of the mercurial into the soil particles. The use of such a mercurial diminishes the

TABLE I—STERILIZATION OF SOIL BY BOILING IN WATER

	Minutes								Hours										
Amount of soil.....	1	5	10	15	20	25	30	45	1	1½	1½	2	2½	3	3½	4	5	6	7
1 gm. per liter.....	+	+					+		+			+		-		-	-	-	
0.1 gm. per liter.....				+			+	+	+	-	-	-							
0.25 gm. package covered with oil.....				+			+	+	+	+	+	+	+	+		+	+	+	+
Instruments covered with soil and oil			+		+		+		+	+	+	+	+	-	-				
Instruments contaminated with soil and lubricated with phenylmercuric benzoate oil.....				+				-	-	-									
" " "		+	+	+	+	+	+	-											

possibility of the transference of spores from the hinged areas of the instruments to wounds.

In Table II a summary is given on the effects of sterilization of the soil by dry heat (oil bath).

From these experiments it was learned that at least 30 minutes and 160° C. (320° F.) are required to sterilize the soil or 15 minutes at 170° C. (338° F.). Wetting of the soil prior to heating did not materially aid in the destruction of the spore bearers. When the soil was covered with a lighter oil (paraffin oil) heat seemed to have penetrated the soil more effectively and sterility was shown to occur after 1 hour's heating at 150° C. (302° F.).

Table III includes the effects of boiling in solution of soda and soda and formalin.

Boiling of the soil in 2 per cent soda destroyed all the spores in a period of 5 minutes. However, when contaminated and oiled instruments were boiled in the soda solution, a period of 10 minutes' boiling was necessary to complete sterilization.

Boiling of soil or soiled and lubricated instruments in 2 per cent soda and from 0.03 to 0.1 per cent formalin yielded similar results. In one instance when 0.2 per cent formalin was employed positive cultures were secured after 10 minutes' boiling of contaminated and lubricated instruments.

TABLE II—STERILIZATION OF SOIL BY DRY HEAT (All samples were wrapped in filter paper tubes and heated in 25c.c. vaseline.)

Amount of Soil	Temp.	15 Min.	30 Min.	45 Min.	1 Hour	Control
0.1 gm.....	120° C.	+	+	+	+	-
"	130° C.	+	+	+	+	-
"	140° C.	+	+	+	+	-
"	150° C.	+	+	+	+	-
"	160° C.	+	-	-	-	-
"	170° C.	-	-	-	-	-
0.1 gm. (wet soil)	120° C.	+	+	+	+	-
"	130° C.	+	+	+	+	-
"	140° C.	+	+	+	+	-
"	150° C.	+	+	+	+	-
"	160° C.	+	-	-	-	-
"	170° C.	-	-	-	-	-
0.1 gm. (covered with paraffin oil)	140° C.	+	+	+	+	-
"	150° C.	+	+	+	-	-
"	160° C.	-	-	-	-	-
"	170° C.	-	-	-	-	-

Sobernheim employed 0.04 per cent formalin. By qualitative tests (Jorissen) it was discovered that the formalin began to disappear at the end of 15 minutes' boiling.

From these results we may safely conclude that the addition of formalin to the soda solutions was of no advan-

TABLE III—STERILIZATION OF SOIL IN SODA AND SODA AND FORMALIN SOLUTION

Strength of Solution	Amount of Soil	5	10	15	20	25	30
Soda 2 per cent-formalin 0.1 per cent	1 gm. per liter.....			-	-	-	-
" " " "	1 gm. per liter.....	-	-	-	-	-	-
" " " "	instruments contaminated with soil and oil	+	-	-	-	-	-
" " " "	1 gm. per liter.....	+	-	-	-	-	-
Soda 2 per cent-formalin 0.2 per cent	1 gm. per liter.....	-	-	-	-	-	-
" " " "	instruments contaminated with soil and oil	-	-	-	-	-	-
" " " "	1 gm. per liter.....	-	-	-	-	-	-
" " " "	instruments contaminated with soil and oil	+	+	-	-	-	-
Soda 2 per cent.....	1 gm. per liter.....			-	-	-	-
" " " "	1 gm. per liter.....	+	-	-	-	-	-
Soda 2 per cent-formalin .03 per cent	1 gm. per liter.....	-	-	-	-	-	-
" " " "	instruments contaminated with soil and oil	+	-	-	-	-	-

Walburn recently also stated that a 1 per cent soda solution and a boiling time of 20 minutes were sufficient to sterilize while a 0.5 per cent solution required 30 minutes. We have used a 2 per cent soda solution to shorten our boiling time. Konrich, however, maintained that the effects of soda was a case of *Scheinsterilisierung*—apparent sterilization. All our cultures were kept for from two to six weeks and they remained negative, indicating that we did sterilize the soil, and we therefore agree with Sobernheim and Walburn that the results are not apparent but real.

Boiling of instruments in 2 per cent soda dissolved in tap water produces a deposit on the instruments, a factor that can be markedly reduced by rinsing in sterile water or subsequent boiling in water. Syringes, however, cannot be boiled in this solution because of the deposit. When soda is used, the drain pipes should be thoroughly flushed to avoid deposits. If the line becomes blocked a little hydrochloric acid will dissolve the precipitate.

We have boiled soil and soil contaminated and lubricated instruments in 0.5 per cent borax solution containing 0.05 per cent H_2O_2 but were unable to sterilize our soil or soil and oiled instruments in less than 1 hour and 15 minutes. See Table IV.

The fact that the knife blades are all oiled and that these knife blades are usually heated in an oil bath at $\pm 140^{\circ}$ to 150° C. (284° to 302° F.) or boiled for short periods of time, indicates that both the temperatures of 140° to 150° C. (284° to 302° F.) and of boiling are insufficient for the destruction of spore bearers occurring on these blades.

Solution	Amount of Soil	Minutes			Hours		
		15	30	45	1	1¼	1½
Borax 0.5 per cent	1 gm. per liter soil and oil on instruments.....	+	+	+	+	+	-
Borax 0.5 per cent						
H ₂ O ₂ .05 per cent	1 gm. per liter.....	+	+	+	+	-	-
Borax 0.5 per cent						
H ₂ O ₂ .05 per cent	1 gm. per liter.....	+	+	+	+	-	-
Borax 0.5 per cent						
H ₂ O ₂ .05 per cent	Soil and oil on instruments.....	+	+	+	+	+	-

Hydrometer jars are daily boiled for a period of 10 minutes and filled with 2 per cent cresol solution up to about 5 cm. from the top. The question arose as to whether or not the tops of such jars are contaminated, since it is impossible to avoid contamination of the top when lifting out instruments. These are immersed in the 2 per cent cresol solution contained in the jars.

The necks of these jars, both outside and inside, were swabbed with wet sterile swabs and the cotton ends flamed off and dropped into brain broth under strict aseptic precautions. When growth appeared, the cultures were plated out on Endo and on blood agar plates. Only one of the twenty-four jars gave no growth. Sixteen of the jars were in regular use.

Date	Kind of Jar	Use	Duration of Use	Outside of Rim	Inside of Rim	Organisms Found
10-14-35	enamel	lifting enamel ware.....	24 hrs.	+	-	gram positive Diplococci oval cocci Staphylococci
"	"	" " "	"	-	-	
"	"	surgical dressings.....	"	+	-	hemolytic Staphylococcus
"	"	" " "	"	-	-	
"	"	lifting instruments.....	"	+	+	Micrococcus tetragenus Staphylococcus
"	"	" " "	"	+	-	Staphylococcus
10-17-35	"	lifting inst. enamel ware...	"	+	+	gram positive bacilli Staphylococcus gram positive and gram negative bacilli
"	"	" " " " ...	"	+	-	tetrads
"	"	" " " " ...	"	+	+	Micrococcus tetragenus gram positive bacilli gram positive rods
"	glass	lifting enamel ware.....	"	+	-	gram positive bacilli
"	enamel	" " "	"	+	+	gram positive bacilli tetrads gram negative bacilli
"	glass	lifting instruments.....	"	+	-	Micrococcus tetragenus
"	"	" " "	"	+	+	Micrococcus tetragenus gram positive bacilli
"	"	" " "	"	+	+	Micrococcus tetragenus gram positive bacilli
"	enamel	dressing carriage.....	"	+	-	gram positive bacilli tetrads
"	"	" " "	"	+	+	Staphylococcus and tetrads tetrads
10-25-35	"	none.....	Disease 24 hrs.	Controls +		spore bearing bacilli
"	"	"	"		-	
"	"	"	"	+		gram positive bacillus
"	"	"	"		+	gram positive bacillus
"	glass	"	"	+		Staphylococcus
"	"	"	"		+	spore bearing bacillus
"	"	"	"	+		tetrad
"	"	"	"		+	Staphylococcus



**Twelve lives saved by
\$92,000 "safety net"
under world's largest
suspension bridge**

At dizzy heights far above San Francisco Bay, bridge builders, ant-like, are rearing the world's champion suspension bridge — the "Golden Gate." On perilous bits of slippery steel—in blinding sunshine, impenetrable fogs, gale-like blasts and freezing cold—they work on like beavers—with the assurance that the best of human forethought has been given to their safety.

Solely to protect them, a huge "safety net"—125 feet wide, almost a mile long—has been spread below them. It cost \$92,000. It has been well worth the cost. Its value is beyond any price—twelve lives have already bounced to safety on it.

SAFETY AT NO ADDITIONAL COST

Where human life is concerned relative safety should be abhorrent if assured safety can be achieved. In dextrose solutions assured safety can be, and is, achieved with Saftiflasks.

40 years of experience in the production, under government license, of products for intravenous injection, have taught Cutter technicians to take no chance with human life. They know that no solution for intravenous injection is safe until *proven* safe by meticulous bacteriological and physiological tests.

To be sure, skilled hands, masters of intricate equipment and apparatus, guided by minds trained for years in their own particular branch of science, are responsible for each exacting step in the preparation of dextrose and other solutions in Saftiflasks.

But, *despite* exacting care in production—no Saftiflask can reach your hands until the lot of which it is a part has been *proven safe* by rigid chemical, bacteriological and physiological tests put on by testing experts entirely divorced from the production group.

Then, as a final precaution—to give you visible assurance that the solution has not been accidentally exposed to contamination

—every Saftiflask is doubly safety-sealed; by vacuum, and by an easily removed viscous seal.

And what do you pay for this assurance that every possible care has been taken to make your dextrose solutions safe? Actually, on the basis of direct costs alone, these ready-to-use solutions in Saftiflasks are less costly than those prepared from concentrated ampules. And, when all of the indirect costs are carefully evaluated, they will be found to be no more costly than those prepared from raw chemicals.

Saftiflasks are available from strategically located distributors throughout the United States. The Cutter Laboratories (U. S. Govt. License No. 8), Berkeley, California and 111 No. Canal Street, Chicago. Members of Hospital Exhibitors Association.

Safti flasks



lytic strain); *Micrococcus tetragenus*; an unidentified gram positive bacillus; a gram positive spore bearing rod. The same organisms were found on the walls of the unused jars. See Table V.

From these findings we may conclude that the tops of these jars harbor various micro-organisms whether they are in general use or simply exposed in the wards. Since glass hydrometer jars are easily broken and enameled jars chipped, chromium plated jars $7\frac{1}{2}$ by $2\frac{1}{2}$ inches have been introduced. In order to reduce and destroy the common skin and other organisms existing on the upper parts of these jars, we have suggested the idea of taking advantage of the oligodynamic effect of metals, and had constructed copper cylinders 6 by 7.5 cm., fitting tightly into the chromium plated jars.

Twenty-four-hour brain broth cultures were made of *Staphylococcus albus*, *Micrococcus tetragenus*, and *B. coli*. A four-millimeter loopful of each of these organisms was then suspended in 10 c.c. plain broth and the copper sleeves were swabbed three times with the diluted and homogeneous suspensions. Control transfers of these organisms gave excellent growth. Since the metal jars were made of brass, the unplated outside parts of the jars were also contaminated in order to compare the oligodynamic effect of brass and copper.

Zinc or Copper Sleeves

From the inoculated portions of the metals, cultures were made by the use of sterile swabs at various intervals of time, and when no growth was obtained, subcultures were made to exclude the possibility of an inhibitory action of the metals. As an additional control, cultures were immediately taken after contamination of the metals (1 minute) and these showed growth in 24 hours at 37° C.

However, at the end of 1 hour's exposure to the metals, the tetrad on copper failed to grow while the *Staphylococcus* showed growth. The tetrad appeared to be more sensitive than the *Staphylococcus* in that it was killed within one hour after contact with copper. After one hour contact, both the *Staphylococcus* and the tetrad failed to show growth. The *B. coli* gave growth after 2 hours' exposure to the metal but not after five hours' exposure. The brass showed a slightly less marked effect.

We may conclude by stating that the copper sleeves are of distinct advantage not only in reducing the number of the common organisms that are likely to occur on the top of such jars, but also in killing these organisms, because they failed to grow after subsequent transplantations. Since zinc has a still higher oligodynamic effect, zinc sleeves or zinc tops can be em-

ployed. Berni and Restivo¹ have recently reported on the effectiveness of zinc.

Two per Cent Cresol

One-tenth of one gram samples of dried soil were suspended in 450 c.c. of 2 per cent cresol as ordinarily employed in these jars. After various intervals of time, 1 minute to 24 hours, samples of 5 c.c. were withdrawn with sterile pipettes and centrifuged. The precipitate was washed five times with sterile distilled water and cultured in brain broth. Growth occurred even after an exposure of 24 hours to the cresol solution.

A similar experiment was performed with *Staphylococcus albus*. Ten c.c. of a 24 hours' culture, in 450 c.c. 2 per cent cresol gave growth after 1 hour, but not after 2 hours' exposure. The cresol in addition to its offensive odor is not an efficient germicidal agent for use in the jars. Cresol may be replaced by a 1:3000 merphenyl borate solution, merphenyl nitrate 1:3000 or 1:5000, or perhaps iodine trichloride 1:1000.* Bichloride of mercury will precipitate proteins and will attack the metal. Mercuric oxycyanide is poisonous. Merphenyl salts will not attack metals, except aluminum, will not precipitate proteins and show high germicidal qualities.

With the use of more effective antiseptics in the jars and with the slow sterilizing effect of the copper or zinc sleeves, daily boiling of the jars is unnecessary.

All instruments that are contaminated as the result of their use in operations should be disinfected immediately by chemicals prior to cleaning and sterilization. Merphenyl nitrate 1:1500, or merphenyl borate 1:1500, are satisfactory and free from odor, color or corrosive qualities.

For sharp instruments, including knives, blades and clips, sterilization in the so-called oil sterilizers is effective when the temperature can be kept at a sufficiently high level. The usual paraffin oils cannot be maintained at a sufficiently high level because of the danger of fire or explosion. Lindol, which is not an oil but a tricresyl phosphate, may be maintained at a temperature of 170° to 175° C. (338° to 347° F.) for the minimum of 15 minutes without danger. This product, however, will eventually break down, leaving a tarry deposit.

If water is added, precipitates of cresols may occur and phosphoric acid is formed. Both of these are irritants. The instruments, therefore, should be fully dried before being placed in the sterilizer. It may be that the aluminum lining of the sterilizer favors these changes, but experiments with

*Iodine trichloride has recently been reported as highly effective but as yet we have not studied the matter in this laboratory.

completely dry instruments are necessary before this can be stated positively. If so, bronze lining may be necessary. The instruments should be dipped in alcohol to remove the lindol.

Dry air sterilization, 170° to 180° C. (338° to 356° F.) for 1 hour, is effective, as is also autoclaving at 15 pounds 121° C. (or 250° F.) for 30 minutes provided no oil is used on hinged instruments. Boiling in 2 per cent soda solution for 15 minutes is effective even in the presence of oil.

Other instruments, including especially those which have been oiled, may be autoclaved if the oils can be thoroughly removed, but it is necessary to exhaust the steam and dry thoroughly before removal, in order to prevent corrosion. Dry air sterilization, 170° to 180° C. (338° to 356° F.) for 1 hour, is effective even if the film of oil is still present. Probably the simplest method is to boil in 2 per cent soda solution for 15 minutes. This also provides for saponification and sterilization of the oily coating. If precipitation occurs, a rinse in sterile water will remove it.

For utensils the same principles apply as indicated in the paragraph immediately preceding.

Dry goods should be autoclaved for 15 minutes at 15 pounds 121° C. (250° F.).

All rubber goods, including catheters, should be autoclaved. This is in conformity with federal government regulations (see Bulletin ZZ G-421, October 8, 1932). Latex gloves have a longer life than the ordinary brown gloves.

Sterilizing Gloves

The government regulation calls for 20 minutes' sterilization at 15 pounds pressure (121° C. or 250° F.). The commercial regulations (see Bulletin C.S. 41-32, Department of Commerce) require 15 minutes at 15 lbs. (121° C. or 250° F.). The use of wet sterilization technique (leaving the gloves in 1:1000 H₂O₂ after boiling for 10 minutes) tends greatly to increase the size of the brown gloves because of water imbibition, and it is our belief that we should follow the federal government regulations for uniformity and safety in this procedure.

The gloves should be wrapped in a double thickness of muslin and then autoclaved. They should never be folded so as to prevent free circulation of steam. Gloves should also be sterilized by themselves to avoid crowding. Oiled catheters should be debarrassed of their oil prior to autoclaving.

Silk should be wrapped on boards and sterilized at 15 pounds 121° C. (250° F.) for 20 minutes. The following experiment was carried out in order to determine whether or not heating of silk will reduce the tensile strength of such materials. The prob-



Sealex Linoleum Floors

"Cheerful!" say patients...

"Silent!" say nurses . . . *"Sanitary!"* says the staff . . .

Children's Day Room, St. Mary's Hospital, Detroit



Corridor of Cooper Hospital, Camden, New Jersey



Operating Room in Philadelphia Bell Telephone Co.

Sealex Linoleum wins the enthusiastic endorsement of the modern hospital on every count. Attractive yet dignified it does away with that cold "institutional" look. Resilient, it is comfortable and silent under foot. Easy to clean, because of its smooth, sanitary surface.

In addition to the attractive tile patterns and Veltone marble designs, Sealex Linoleum presents unusual opportunities for specially designed floors. Note the playroom above.

Sealex Linoleum may be installed without expensive preparatory work over worn cement or wood. Relatively low in initial cost and economical to maintain, Sealex Linoleum offers most in year to year low cost.

For hospital walls: A companion material, Sealex Wall Linoleum. Available in cheerful pastel shades—it is sanitary, stain-proof and washable. A permanent building material.

Quickly installed by authorized contractors, Sealex floors and walls carry a guaranty bond covering the full value of workmanship and materials. Write for details.

CONGOLEUM-NAIRN INC., KEARNY, NEW JERSEY

SEALEX LINOLEUM
TRADEMARK REGISTERED

— Floors and Walls —

lem is of extreme importance to the surgeon since we have suggested autoclaving silk for a period of 15 minutes at 15 pounds 121° C. (250° F.).

The tensile strengths were determined at the Cleveland Wire Works through the courtesy of S. Schein of the incandescent lamp department of the General Electric Company. See Table VI.

The breaking load on the various samples tested was uniform with the

TABLE VI—TENSILE STRENGTH OF SILK BEFORE AND AFTER AUTOCLAVING

Material	Tensile Strength in Grams
A silk—control unheated.....	2453
A silk—autoclaved 15 lbs. 15 min. (121° C.)..	2435
C silk—control unheated.....	2493
C silk—autoclaved 15 lbs. 15 min. (121° C.)..	2440
White Pearsall's Chinese Twist-Silk control unheated.....	1540
autoclaved 15 lbs. 15 min. (121° C.).....	1557

exception of the A silk, heated, which varied in individual samples tested somewhat more than the other samples.

From these findings we may conclude that heating at 15 pounds (121° C or 250° F.) for a period of 15 minutes does not materially affect the tensile strength of surgical silk.

All clips should be treated like sharp instruments.

Hand brushes should be treated with merphenyl nitrate or merphenyl borate 1:3000 and kept in this solution and the bristles will absorb the drug, thus acquiring antiseptic qualities. Brushes treated with merphenyl salts do not need to be boiled. Soaps should be washed out of the brushes before they are immersed in the solutions.

Catgut tubes and ampoules should be placed in merphenyl nitrate or borate 1:3000 for 10 to 15 minutes or longer before the tubes are broken. Bichloride of mercury 1:1000 may also be used. However, a 1:5000 solution of potassium mercuric iodide fails to kill certain organisms on various surfaces including glass. A study of this finding will be reported sometime later on.

Nail files and orange sticks should be placed in merphenyl borate or nitrate tincture 1:3000 for at least 10 to 15 minutes before they are to be put in service.

Glass syringes of the luer type may be sterilized in the autoclave for 20 minutes at 15 pounds (121° C. or 250° F.), barrel and plunger separate and wrapped in gauze. This is not desirable for needles, which should be placed in cotton plugged test tubes and sterilized in the dry air oven for not less than 30 minutes at 170° to 180° C. (338° F. to 356° F.).

Medicine glasses, such as those used for local anesthetics, should be wrapped and sterilized in the auto-

clave for 15 minutes at 15 pounds (121° C. or 250° F.)

Oils, waxes, vaseline, vaseline gauze should be sterilized in the dry air oven for at least 30 minutes at 170° to 180° C. (338° to 356° F.). If kept at 180° C. (356° F.), Rodenbeck suggests that 20 minutes is sufficient.

Talcum powder (magnesium silicate) is not easily permeated by steam and therefore a hot air oven should be used (170° to 180° C. or 338° to 356° F.) for about 1 hour in its sterilization. Very thin layers of talcum powder in flat muslin or gauze packs, however, can be sterilized together with the gloves in the autoclave. Larger quantities of talcum powder can be sterilized in the hot air oven and kept sterile in jars.

References

- ¹R. Koch: Mitt. Kais. Ges. A., 1881, 1, 234. Quoted by Reichel, H.: Kolle u. Wass., 1931, 3, 858.
- ²Rodenbeck, H.: Arch. f. Hyg., 1932, 109, 67.
- ³Konrich, F.: Med. Welt., 1933, 7, 317.
- ⁴Sobernheim, G.: Schweiz. Med. Wochenschr., 1932, 62, 1034.
- ⁵Walburn, L. E.: Hospital stidende, 1933, 76, 57.
- ⁶Holman, W. L., and Carson, A. E.: Jour. Inf. Dis., 1935, 56, 165.
- ⁷Berni, A., and Restivo, G.: Boll. Soc. Int. di Microb., 1936, 8, 123.

Rustless Sputum Cup Holder

One of the most unsightly things that meets the eye of anyone entering a room in a tuberculosis sanatorium is the rusted sputum cup holder or frame on the patient's bedside table, according to Marion R. Ivory, supervising nurse, Montefiore Hospital Country Sanatorium, Bedford Hills, N. Y.

The problem of sputum cup holders that can be sterilized without rusting has been satisfactorily solved at that institution by the use of a rustless material. Half hard aluminum wire, one fifth inch in diameter was purchased at 1¼ cents a foot. Since seventeen inches of wire is required for one holder each holder costs the institution slightly over 2½ cents. A hardwood form was made over which the holders were turned by hand in the hospital's maintenance department.

Several unsuccessful attempts had been made to contact supply houses for a sputum cup holder that could be boiled without rusting, and several kinds of wire were tried before the right one was found. These holders have been boiled twice a week over a period of three months and not only have they remained rustless but they have improved in appearance. They should last indefinitely and be well worth the trouble of making them since to the best of our knowledge a rustless sputum cup holder is not on the market.

The wire holder calls for a sputum cup with its own cover which is sanitary and easily handled by the patient and the nurse.

THE HOUSEKEEPER'S CORNER

• Welcome to Elizabeth Wassiack, housekeeper at Waterbury Hospital, Waterbury, Conn., new member in the Connecticut chapter of the NEHA. Miss Wassiack's membership was received with appropriate applause at a recent meeting held at the Y.W.C.A. in New Haven. An honored guest at the same meeting was Mrs. Anna M. Hess, housekeeper at William Backus Hospital, Norwich, Conn. Mrs. Hess, formerly from Boston, was a member of the Boston chapter. The study of floor engineering goes on, under the direction of President Blanche I. Newton. On this occasion discussion centered on cork and linoleum and was accompanied by an interesting exhibit of materials used in the manufacturing and maintenance of these materials.

• A message from Louise Leturc of Bronx Hospital should be of interest to hospital women. "The position of housekeeper today," says Miss Leturc, "is one of big responsibility involving the necessity of taking advantage of the different educational courses given by our colleges and universities. Interior decorating, linen control, cleaning methods are a few of the important subjects. Added to these a study of human psychology plays a most important part—knowing how to manage help, how to bring out the best work in each individual, always bearing in mind the return in labor for amount paid. But all this cannot be accomplished without the cooperation of fellow workers and superiors."

• Any old three-fold screens about the hospital—you know the kind—burlap set in dingy wooden frames? Try this modern method of rejuvenation. Remove the burlap and insert in its place composition board. Next get some attractive scenic paper, only a small amount is required and the washable type is preferred. Apply this neatly to the board. The hospital painter or handy man should be able to render valuable assistance. Let it dry thoroughly before starting on the frame. This should be painted in one of the predominating colors appearing in the design, or if the design is neutral, in a shade to harmonize with the room in which it is to be used. Mrs. Doris Dungan has tried it out at West Jersey Homeopathic Hospital, Camden, N. J., and is ready to vouch for its success.

• On February 16 a new chapter of NEHA was launched at St. Louis, under the presidency of Mrs. Agnes White, Coronado Hotel. The event was celebrated by an evening gathering when Mrs. Adele B. Frey, Cleveland, the national first vice president presented the charter.

Controlled-Cost Air Conditioning clears up the "Mystery" of SUMMER COOLING!

**Brings to Hospitals a practical, business-like way of
controlling cooling costs . . . and meeting the widely
varying requirements of hospital work**

More Frigidaire air conditioning equipment is in use in hospitals than that of any other manufacturer. And there are very definite reasons for this.

Perhaps most important is the fact that hospital work probably requires a greater variety of air conditioning than any other type of installation.

And Frigidaire *Controlled-Cost* Air Conditioning meets these requirements perfectly—supplying everything from the simple cooling of rooms to elaborate conditioning of operating rooms and laboratories. And you can add to your installation—department by department—at any time.

Further, *Controlled-Cost* Air Conditioning is a boon to the hospital budget—for it not only costs less to use—but at the same time, by presenting *all the facts* in advance—in other words by clearing up the "mystery" of air conditioning—it lets you know, *and therefore control*, the *entire* cost.

Frigidaire *Controlled-Cost* Air Conditioning is today aiding the recovery of patients, bringing cool comfort to harassed nurses and doctors, relieving hay-fever, improving operating room and dressing room efficiency . . . and repaying its entire cost by attracting patients who are willing and glad to pay more for cool comfort during the hot, humid days of summer.

Get the facts about Frigidaire

Controlled-Cost Air Conditioning for hospitals . . . and for *your* hospital in particular. Mail the coupon . . . *Today*.



What Controlled-Cost Air Conditioning Means to Hospitals

1. A system that gives you the desired atmospheric conditions—you pay *only* for what you need.
2. Equipment of exactly the right size and capacity for you—neither too small, which would mean unsatisfactory performance; nor too large, which would be wasteful and costly.
3. A *method* of installation that suits *your* hospital—whether old or new—and regardless of its type of construction.
4. *More* cooling action with less current consumption. Hence a control over operating costs.
5. Dependable, *proven* equipment for low maintenance cost.
6. A presentation of *all* the facts in everyday language, so that you will know *and can therefore control* the entire cost.

It Pays to Talk to
DELCO-FRIGIDAIRE

The Air Conditioning Division of General Motors

AUTOMATIC COOLING, HEATING AND CONDITIONING OF AIR

What hospitals say about FRIGIDAIRE Air Conditioning

"The surgeons of San Antonio are loud in their praise of this system and we have been congratulated numerous times on having had it installed."

Santa Rosa Hospital
San Antonio, Texas

"I am sure that it has been a great benefit to our patients from the standpoint of heat-stroke while operating during the intensely hot weather."

Cincinnati General Hospital
Cincinnati, Ohio

"Instead of patients putting off their operations until cooler weather, we find that they are putting off their operations until summer time so that they may enjoy the benefits of the air conditioned operating room and hospital. We feel that the air conditioning plant has far more than paid for itself to date."

The Sugg Clinic
Ada, Oklahoma

"Having been sold on air conditioning, and on Frigidaire particularly, it is difficult to realize that summer has come and gone. All previous ones have been such endless successions of insufferably hot days and sleepless nights."

Coachilla Valley Hospital
Indio, California

MAIL THIS COUPON TODAY!

Delco-Frigidaire Conditioning Division
General Motors Sales Corporation
Dayton, Ohio—Dept. MH-3

I want the facts about *Controlled-Cost* Air Conditioning. Please send me the complete story by return mail. I am obligating myself in no way at all.

Name

Address

City and State

Why Take a Chance?

By A. A. Kalinske and Frank R. King

THE complicated plumbing and piping systems of hospitals, with their numerous special fixtures to which water is supplied, present many opportunities for bacterially safe water to become infected, unless the piping and fixtures have been properly installed and maintained. The occasions of such possible infection may be only momentary and extremely difficult to trace and locate, but since opportunities for pollution and infection of drinking, washing and sterile water exist in hospitals, even though remotely, the situation warrants the serious attention of all concerned with their plant operation.

Conditions causing the transfer of sewage into pure water lines are, obviously, not to be tolerated in any building. In a hospital such conditions should not be allowed to exist even if the possibility of their being a factor in the contamination of pure water is exceedingly remote. Of what significance is expensive equipment and the advanced technique of the medical science if the sterility of surgical instruments or the purity of distilled sterile water is endangered by faulty plumbing and piping connections.

Health Role of Plumbing

Before the specific, unsafe hospital installations and fixtures are pointed out, it would be well to discuss generally the real health rôle played by the plumbing and water piping system of a hospital. The duty of a plumbing system and all its appurtenances is to supply pure water at any and all times, and to remove waste and excreta of various sorts.

Pure water must be kept pure, and filth, waste and human excreta have to be prevented from entering it, even though at numerous places in the system, especially at the various fixtures, pure water and sewage or unsafe water are very close, if indeed they are not physically interconnected.

In the old type of instrument sterilizer the sewer and water supply connections were placed in the bottom of the receptacle, a few inches apart. Over these connections lay the instruments submerged in water—a perfect example of a simple direct fixture cross connection with all dependence on the separation of pure and impure water placed on single valves. No dependence can be placed on any valve or series of valves of whatever type to keep pure and impure water forever separate.

Questions immediately come up. How is it possible to contaminate pure water, even if it is directly connected to unsafe water, if the pure water pressure is higher? How can contaminated water from a fixture get into a water supply pipe rising above the top of that fixture, even if the inlet is submerged? These questions can be answered by a short discussion of certain phenomena that occur in the water supply piping.

There are numerous causes, occurring with greater or less frequency, which produce partial vacuums in the water supply piping for extended intervals of time or perhaps for only a few seconds. However, whenever these vacuums occur, every leak, every fixture and every connection submerged in foul water becomes a possible source of pollution. The simplest cause of a vacuum is the shutting off of the water pressure for some reason or other, and the subsequent slow or rapid draining of the water pipes through some leaky or open faucet.

When this occurs every submerged inlet fixture above that leaky or open faucet will have its contents pulled back into the supply line. All that has happened is that a siphon has been formed with the water pipes. In Fig. 1 (A) closure of valve (A) and use of drinking fountain would siphon contents of therapeutic bath shown on third floor and perhaps of toilet bowl on second floor. Whether the toilet bowl with submerged jet would siphon without being clogged and flooded, depends on whether the rim holes are sufficiently large and open to relieve the vacuum.

Another common cause of vacuums is the undersizing of water pipes and the large usage of water on lower floors of a building. If pipes are not large enough, either because of improper design or liming up and corrosion, and a large amount of water is used in the basement, a partial vacuum is bound to occur on the upper floors. Because of the large draw of water through a small pipe the pressure drops and not enough pressure exists to force water up to the upper floors; instead, the water flows back down the water pipe.

In Fig. 1 (B) opening the valve to the laundry machine (or any other fixture using considerable amounts of water) causes a vacuum on the second and third floors. When the drinking fountain is opened, water comes from two sources: from the pure supply and from the bath on the third floor.

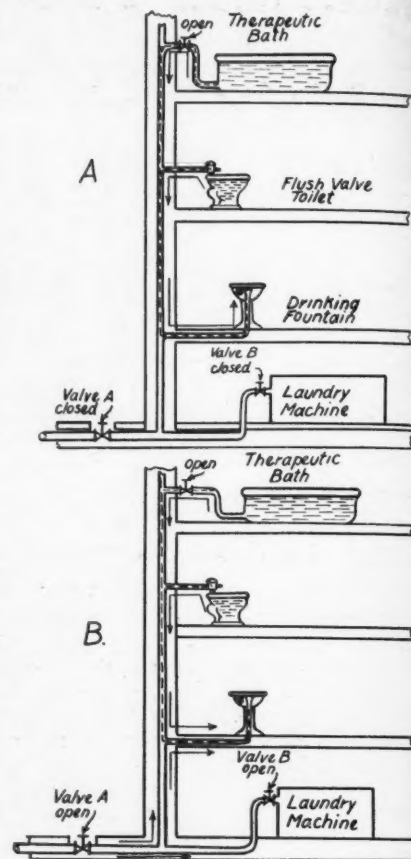


Fig. 1. Two common ways to produce siphonage—A, water pressure shut-off; B, pressure lost because of an unusually large use of water.

In general the above two illustrations indicate how vacuums occur in water supply pipes. Any failure or excessive drop in water pressure may momentarily cause a vacuum in some part of the water piping distribution system with probably resultant pollution of the water.

To a large degree, the proper design and maintenance of plumbing systems will prevent the occurrence of vacuums; there are, however, many uncontrollable factors which are bound to occur. Therefore it must be assumed that vacuums will occur, and our installations must be so made as to preclude any possibility of contamination being sucked into the water pipes.

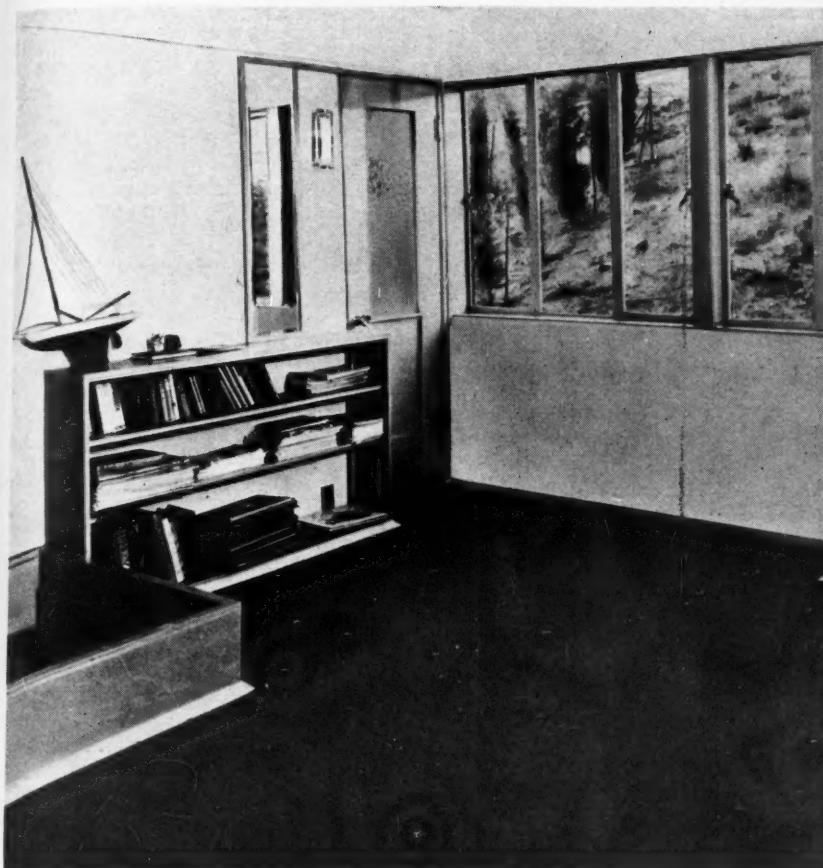
The hospital has undoubtedly more different types of submerged inlet fixtures than any other building, and the unfortunate fact is that in many instances the submerged inlet cannot be eliminated as it forms a necessary feature of the fixture. For instance, in such fixtures as the therapeutic bath, the autopsy table, different types of sterilizers, aspirators, the bidet, the bedpan washer and the toilet bowl, the water supply inlet is bound to be submerged either due to normal filling of fixtures or clogging of waste line or trap.

MODERN FLOORS FOR MODERN HOSPITALS



Health House, Los Angeles, Cal. This ultra-modern hospital was planned and designed by Architect Richard J. Neutra.

~ ~ ~
Modern floors of Armstrong's Plain Linoleum in No. 22 Dark Gray and No. 26 Silver Gray help keep this children's room in Health House, Los Angeles, bright and sanitary. Armstrong's Linoleum was also used in several other rooms.



In Los Angeles' famous Health House, Armstrong's Linoleum provides colorful, comfortable, sanitary floors

WHEN Architect Richard J. Neutra planned the interior of the Health House in Los Angeles, his floor requirements were most definite. He needed floors that would meet every hospital standard for sanitation, easy maintenance, underfoot comfort, and quiet. He also required a cheerful, colorful material that would fit in with his ultra-modern architectural scheme. Floors of Armstrong's Linoleum met all his specifications.

Armstrong's Linoleum is resilient. It quiets noise . . . cushions the

footsteps of doctors and nurses. It is sanitary. Its smooth, even surface does not harbor dust or germs. It is easy and economical to keep clean by daily sweeping and occasional washing and waxing. It never needs expensive refinishing. Spilled things wipe right up.

Armstrong's Linoleum is durable. Even when exposed to extra-heavy daily traffic, it remains bright and colorful for years. It can be inexpensively installed over your old floors with little or no interruption of routine hospital activities.

From a wide range of plain and marble patterns, you or your architect may easily select the correct floor for any room in your hospital. Armstrong's Architectural Service Bureau will aid in the planning without charge. For further information about Armstrong's complete line of resilient floors—Linoleum, Linotile, Accotile, Cork Tile, and Reinforced Rubber Tile—write for color-illustrated "Better Floors." Armstrong Cork Products Co., Floor Division, 1210 State Street, Lancaster, Pa.



ARMSTRONG'S *Linoleum* and RESILIENT TILE FLOORS

LINOTILE • ACCOTILE • CORK TILE • RUBBER TILE • LINOWALL • ACOUSTICAL CEILINGS

Obviously the best and surest method of eliminating a hospital fixture cross connection is raising the water supply inlet a short distance above the overflow rim of the fixture. Whenever possible, this correction should be applied. Since this cannot be done to most hospital fixtures, the installations must use certain protective devices and follow a protective type of installation, so as to prevent any vacuum from acting on the contents of any fixture and pulling the liquid back into the water lines. A discussion of the hospital aspirator as used in operating rooms, morgues and dental chairs will illustrate some of the protective devices to be used.

It might be mentioned that the old type water pressure operated aspirator presents as much danger to the purity of the drinking water supply as any fixture in the hospital. It is a fixture whose use is strongly condemned even under the most favorable conditions. If it is used, it is absolutely imperative that the following protective features be incorporated (See Fig. 2):

1. A vacuum breaker should be installed in vertical portion of the pipe leading from water control valve. In

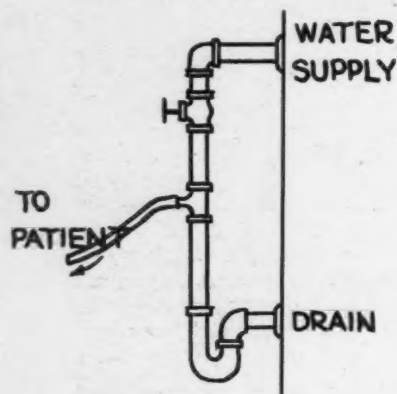


Fig. 2. Above, an unsafe aspirator installation; below, a safe aspirator installation, with protection against contamination of aspirator equipment caused by backing up of drain water and the contamination of the water supply by back siphonage.

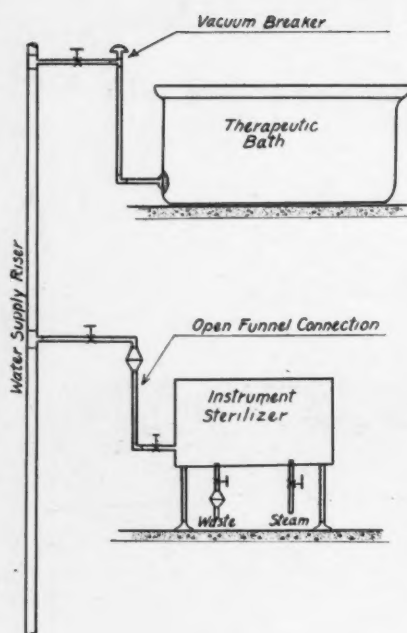
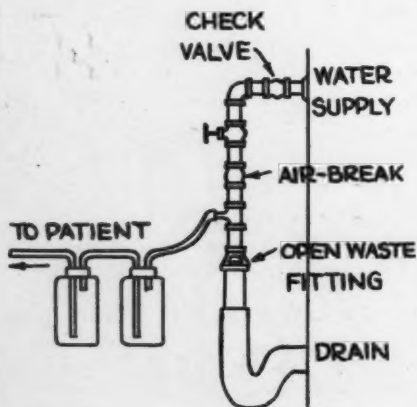


Fig. 3. Two methods of preventing water pollution from submerged inlet fixtures are here diagrammed.

this fixture in order to obtain proper and efficient operation a vacuum breaker of the "check-valve-air-opening" type is needed. The check valve shown is an added protective feature.

2. Below the aspirator proper there should be an open drain fitting so designed that any flooding of sewer or clogging of trap will not cause sewage to back up the water line.

3. It is advisable not to have a direct connection from point of suction to the water line. Glass jars should be inserted as shown.

The use of a proper vacuum breaker and an open waste fitting forms the method of protection for most hospital fixtures. Certain items to observe regarding vacuum breakers are: (1) the air openings must be sufficiently large to supply air fast enough to prevent formation of any appreciable vacuum below the breaker; (2) they must be installed above the top of the fixture; (3) they must be on the discharge side of the water supply valve; (4) if of the mechanical type they are only to be closed when water is discharging; at all other times they must be in direct communication with the atmosphere.

Where water does not need to enter a fixture at a high velocity, but can just flow in through a submerged inlet, the cross connection can be most effectively broken by having the water from the control valve go into a funnel-like open fitting, similar to the open waste fitting used on the aspirator (See Fig. 3). Such a protective device could be effectively used on sterilizers of various sorts, dishwashers and many tanks or vats. If steam pressure is built up in the fixture, another

valve would have to be installed on the opposite side of the funnel fitting.

On other types of fixtures requiring water under pressure, such as various arm, foot and body baths, sinks and bidets, a vacuum breaker would have to be installed as shown in the upper part of Fig. 3.

Hospitals have many automatic flush valve operated fixtures such as toilets, bedpan washers and slop sinks. The flush valve is so constructed that it can be easily opened by a vacuum, thus providing a direct communication for the contents of a fixture to pass back into the water lines. All flush valve fixtures must be provided with properly designed vacuum breakers.

Fig. 4 shows one type of unsafe installation and what must be done to correct it.

Another fixture that should be mentioned, is the dental chair with its cuspidor bowl, aspirator and drinking and mouth wash water all connected to the same line and interconnected by an intricate system of valves and water passages. All this is done for the convenience of the operator and the possibility of water pollution overlooked, forgotten or evaded.

The water supply to the cuspidor forms a dangerous submerged inlet cross connection. The aspirator connection can pollute the main water supply if a vacuum should exist, and also can at all times pollute the water supply on the dental chair or pedestal

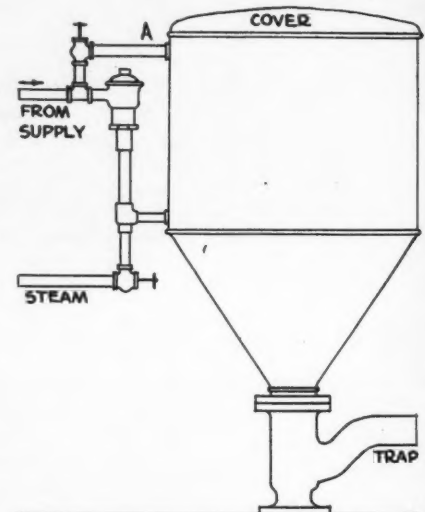


Fig. 4. An unsafe bedpan sterilizer installation. (1) Check valve is necessary in supply line, and air-break on discharge to prevent back siphonage, or combination check and air break of approved type can be used on discharge side of valve. (2) Flush valve must be raised so air break is above overflow of hopper. (3) Line A must be provided with check valve and air break protection or changed to a swinging spout.

WHERE THE BEST RADIOGRAPHIC SERVICE IS REQUIRED

The film must be chosen with care



THE radiologist judges an x-ray film by its sensitivity, exposure latitude, contrast, and uniformity. For unless these qualities meet the highest specifications, full dependence cannot be placed in the finished results.

In Eastman *Ultra-Speed* Safety X-ray Film these properties are correctly balanced to provide the desired radiographic quality in every situation—the brilliant image contrast demanded in one case...the fine detail with moderate contrast essential in the next. And each film is

identical with the one that came before it...the one to come after it.

Thus, standardization on Eastman *Ultra-Speed* Safety X-ray Film, the accepted radiographic medium the world over, goes far toward solving the natural technical problems of the x-ray department. It means conservation of time and materials...it means reliable radiographs delivered promptly and economically...it means a satisfied staff. Eastman Kodak Company, *Medical Division*, Rochester, N. Y.

EASTMAN ULTRA-SPEED SAFETY X-RAY FILM

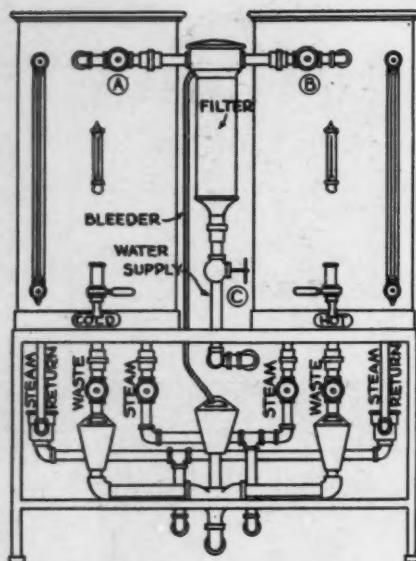


Fig. 5. A water filter and sterilizer. Contamination of sterile water in tanks from drains prevented by open drain fittings. Contamination of sterile water by leaky supply valve C prevented by bleeder which prevents building up of pressure against valves A and B.

itself. This last item seems to be entirely overlooked by designers. It is quite easy for saliva, mucus, blood and filth in the aspirator connection to mingle with the water drawn off from the connection on the chair or pedestal and used by the patient for drinking or mouth washing.

The water filter and sterilizer to provide absolutely sterile water in the hospital for washing wounds, preparing salt solutions, is a fixture that requires every possible protection from

pollution, not only from waste lines but also from unsterilized water. The construction must be such that no dependence is placed on valves in keeping sterile water separate from unsterile, and open drain fittings are to be used to prevent sewage from even coming in contact with the drain valves leading to the sterile water tanks (See Fig. 5).

In this discussion many technical details have been left out, as it is not the purpose of this paper to go into the engineering principles of back-siphonage and cross connections. The possibility of pollution of water by various fixtures may be more remote in some instances than in others. The obviously more dangerous cross connections should be the first to be corrected, and the others can be eliminated as financial circumstances permit. Surely no building, least of all a hospital, should have under any circumstances or conditions a direct physical connection between a sewer and water pipe, but if such a condition exists, nothing should prevent its immediate and permanent removal.

Research, tests and field observations have conclusively demonstrated that fixtures with either permanent or temporary submerged inlets present a grave potential danger to the purity of water supplies. There is no particular reason why that potential danger should be allowed to exist now that we know about it.

By the careful and sane application of hydraulic and pneumatic principles involved, this potential danger of back-siphonage can be readily removed. The general methods mentioned in this paper for eliminating the various fixture hazards are the best and most reasonable developed to date.

voile with a small red figure and the spread was a red and white candle-wick. The tenant was so delighted that she added black and white silhouettes and lamps which almost started a run on red and white rooms.

Two other rooms were finished in a pale orchid and ivory with green and white voile curtains and green and white spreads. Two rooms were finished in light and dark green with white and orchid curtains and spreads. Another, finished in peach and ivory with peach curtains, was brightened with a candlewick spread done in tiny wreaths of rainbow shades.

All curtains were made full length with double hems, of washable voiles and marquisesettes. The single rooms required a quart of flat white paint and a quart of enamel for finishing. Most of the colors were mixed by the hospital painter.

As the hospital had grown, the first floor of this home had been taken over for dining rooms, so that the twenty-five young women in this building had no living room. There was no extra room available for this purpose, but the second floor hall was six and a half feet wide and the part facing the stairway about fourteen feet long, broken, however, by doorways with a narrow window in the end.

Two 4 by 5-foot strips of dark blue carpet, discarded from a private room, determined the color scheme of blue, orange and black. A homespun crash of an irregular blue and white plaid with heavy threads of orange and black running through was used for curtains. A wooden pole painted orange was put across the full width of the hall and the curtains allowed to hang just covering each side of the window frame to give width. The crash was box-pleated and fastened to the pole with loops of one-inch black sateen, which was also used down the sides and across the ends of the curtains as a border.

From the attic a 30-inch cot was rescued, covered with blue and orange crash, and finished with two pillows of orange and one of black sateen. A 48-inch table with a black glass top, no longer needed in the dining room, was put in the corner by the window with a white pottery lamp on it which looked far superior to its cost of two ninety-five. A board member donated a spinet desk, a straight chair and a telephone table which were painted black and orange and added to the room. One upholstered chair in blue, tan and orange, taken from another building, and a floor lamp completed a cozy sitting room at a total cost of \$16.95 and some research in attics and basement.

There is still about twenty-five dollars left with which we plan to make a sitting room in the third floor hallway, using red and white gingham curtains, a red checked tablecloth, and a small wall cupboard with a tea set.

Twenty Rooms and Two Hundred Dollars

By Doris L. Dungan

TWO hundred dollars in the treasury of the women's board which had not been pledged for any definite purpose, and an old nurses' home with twenty sleeping rooms sadly in need of brightening up! The sum of the two was an adventure in decoration which made homelike rooms out of institution cells.

Each room had the usual quota of beds, dressers and chairs; but the beds were white iron, the dressers and other furniture imitation mahogany and the window and sash curtains of scrim, with dark green blinds—not an inviting place in which to rest after a day on duty. There was one redeeming feature—the walls were painted a soft cream.

For \$39.50 the green blinds in all

the rooms were replaced by shades of fawn cambric. Bathrooms with partitions of dark green were painted cream color and mirrors added. An interested paint manufacturer supplied paint at cost. To make the paint go as far as possible the rooms were done in sets. If a room on the second floor was decorated in peach and ivory, one on the third would be done in ivory and peach.

As far as possible, too, rooms were decorated in colors chosen by the occupants; even to the nurse who wanted a red and white room. The furniture in this room was painted an oyster white and knobs of the dresser and edges of chair panels finished in brilliant red. The curtains were white

FOR WANT OF A THREAD A GARMENT WAS LOST

● Pick any garment to pieces and you have a mass of threads. The fabric is made of thread. The parts are put together with thread. Any weak thread and—the garment's gone. The reliability of Marvin-Neitzel garments springs right from the thread. A knowledge of hospital practice, constant study to use the most practical fabric for the job at hand, scientific workmanship in the construction, has developed continual improvement in Marvin-Neitzel hospital apparel and, as a result, improved service for your hospital.

Be sure to write for new catalog of hospital garments if you haven't already received your copy.



MARVIN-NEITZEL CORPORATION

"Everything from Cloth for the Hospital and School of Nursing"

TROY

Since 1845

NEW YORK

FOOD SERVICE

Conducted by Anna E. Boller, Rush Medical College

Planning Meals for Veterans

By Grace M. Bulman

Veterans' Administration Facility
Summit, New York
ST. PATRICK'S DAY
March 17, 1935
MENU

CONGOMME ROTALE
CELERY PICKLES
ROAST TURKEY
OYSTER DRESSING GIBLET GRAVY
MASHED POTATOES
BUTTERED PEAS
IRISH CO BRAGH SALAD
HOT CLOVERLEAF ROLLS
PISTACHIO ICE CREAM -- SHAMROCK CAKES
COFFEE TEA MILK



EVERY hospital dietitian will agree that planning meals for patients and personnel is not a simple matter. Three times a day, year in and year out, her ability and ingenuity are taxed to furnish the most acceptable food at the lowest possible cost. Her efficiency fluctuates in proportion to the success of the meals she serves. She must satisfy the groups who eat these meals, the physicians who prescribe the diets and the management of the hospital.

In the widely scattered hospitals of the Veterans' Administration, located in forty-three states, the planning of satisfactory meals presents a complex problem to the dietitians engaged in dietetic service for the disabled veterans. To this task the qualified dietitian brings all her training and experience in menu making for both the sick and the well, her knowledge of food values, of suitable combinations that will be pleasing as to color, consistency and appearance, of the economical use of food supplies and her standards of cooking and serving.

In the Veterans' Administration hospitals she first demonstrates her ability in the planning of special diets that are variations of the approved regular diet menu in the hospital to which she is assigned. Gradually, as she gains experience in the new organization, she becomes familiar with the factors having a definite bearing upon the hospital menus. By the time she progresses in the service to the grade of chief dietitian, she is capable of assuming full responsibility for planning menus and for seeing that they are properly executed.

The regulations of the Veterans' Administration require her to provide first of all, a regular diet on a sound nutritional basis to meet normal requirements. This menu is served to patients for whom special dietetic treatment is not indicated, and to hospital personnel whose contracts of employment include subsistence. The regular diet is planned on a weekly basis and approved by the chief medical officer at the hospital before it is put into effect. After approval, it becomes the foundation upon which other routine diets and various special diets are constructed.

With the therapeutic needs of her particular hospital constantly in mind, the dietitian tries to plan the regular diet so that a minimum of variation will be necessary to make adequate provision for the nutritional requirements of the entire group. The general plan for menu making was shown in a previous article.¹

Each chief dietitian becomes thoroughly familiar with the standard Administration specifications for food supplies, not only for the purpose of determining the acceptability of items at time of delivery, but also in order that she may utilize information regarding size, quality and variety of items in planning meals. In addition she keeps fully informed regarding market conditions, current local prices and the quarterly budget allotments for food supplies at her station.

Even though the diet planned is

¹Bulman, Grace M.: When Ten Million Dollars for Food Is Considered Well Spent, *Mod. Hosp.* 38:85 (Jan.) 1933.

nutritionally correct, attractive in appearance, properly cooked and served, economical in every respect and sufficient in quantity and quality, it may still fail to prove entirely satisfactory in the hospitals of the Veterans' Administration if local food habits and the needs of the particular type of hospital have been overlooked.

Since the majority of the group for whom the menus are planned stay months and even years at the same station, which is as near their homes as suitable medical facilities permit, it is essential, if contentment regarding the food service is to be maintained, that meals show consideration for local tastes. Accordingly, it is customary in the hospitals of the Veterans' Administration to include popular local dishes on the menu as frequently as possible without detracting from the adequacy or variety of the meals.

Because of this procedure, a dietitian who enters the service of the Veterans' Administration faces the necessity of becoming familiar with food habits in all parts of the United States. She is subject to transfer from one section to another in accordance with the needs of the Administration and as her own efficiency places her in line for promotion to a higher grade when a vacancy occurs in another hospital.

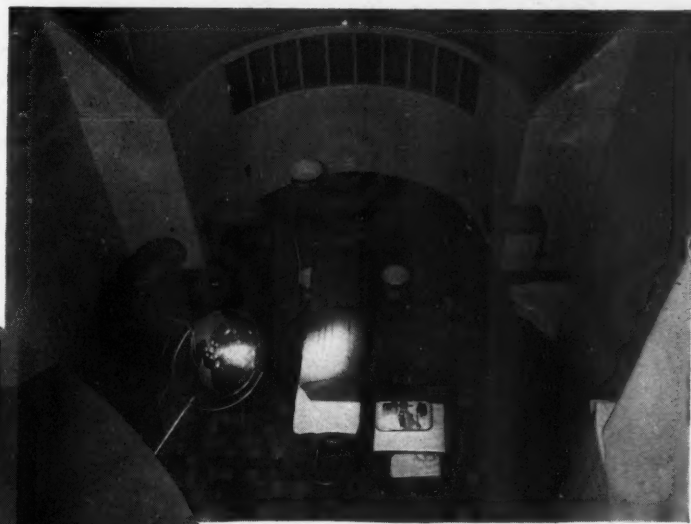
It is not unusual for her to be situated in a locality where the food habits are different from her own. She must become familiar with the favorite dishes in that section and must recognize the fact that tradition will brook little variation from customary recipes for preparing these dishes. In a New England Veterans' hospital she finds that the menus often include the boiled dinner of that section, the ever popular clam chowder and codfish balls, Boston brown bread and Johnny cake.

Catering to Southerners

In the South she learns that there must be plenty of corn bread of a different type from that served in other parts of the country. There must be hot biscuits, too, and thick gravies, chicken gumbo, and turnip greens seasoned with pork. In the far West artichokes and ripe olives are popular and avocados may be served without jeopardizing costs. In some sections potatoes are desired every day and sometimes two or three times a day, while in others there is a decided preference for rice, macaroni and hominy. Although griddle cakes are generally popular, in some parts of the country they must be accompanied by maple syrup and in others by cane molasses.

Even the holiday menus reflect sectional food customs to some extent. There is a section where a Fourth of July dinner is incomplete without fresh salmon and green peas. In another, black-eyed peas and pork in

*From Operating Room . . .
To Patients' Rooms . . .*



*This complete contract was executed by
John Wanamaker, New York.*



ONLY THE FINEST FOR THE MANHATTAN GENERAL HOSPITAL!

We are pleased that the thoroughly modern equipment of the Manhattan General Hospital in New York City includes GOODALL FABRICS, selected by Dr. Alfred A. Richman, director of the hospital.

These draperies live up to exacting efficiency standards. They are easy to clean, not catch-alls for dust. Tubfast and sunfast, they indefinitely retain their cheery colors and patterns.

An impressive and growing number of the country's leading hospitals use GOODALL FABRICS for draperies, bedspreads, slip covers and upholstery. They completely fulfill every requirement of beauty, sanitation and long, economical service!

Goodall-Sanford
INDUSTRIES

L. C. CHASE & CO., Inc., Selling Division, 295 Fifth Avenue, at 31st Street, New York City

some form must be eaten on New Year's Day in order to ensure good luck throughout the year. All parts of the country seem to agree, however, on a turkey dinner when Thanksgiving and Christmas come.

Special effort is made to give a festive touch to all holiday meals and to serve menus suggestive of the occasion. Typical of holiday dinners in Veterans' Administration hospitals are the following served on St. Patrick's Day:

Cream of Spinach Soup—Crackers
 Broiled Lamp Chops
 Mashed Irish Potatoes—Gravy
 Buttered Fresh Mustard Greens
 Mixed Sweet Pickles
 St. Patrick's Ice Cream
 Irish Cloverleaf Rolls—Butter
 Tea — Coffee — Milk

Consommé Royale
 Celery — Pickles
 Roast Turkey — Oyster Dressing
 Mashed Potatoes — Giblet Gravy
 Buttered Peas
 Erin Go Bragh Salad
 Hot Cloverleaf Rolls
 Pistachio Ice Cream—Shamrock Cakes
 Tea — Coffee — Milk

More important, perhaps, than familiarity with local food likes and dislikes is the necessity for suiting the menu to particular requirements of each type hospital. In the Veterans' Administration there are three distinct types: the tuberculous, the neuropsychiatric and the general. There are now twelve hospitals in the first group, twenty-six in the second and forty-three in the third, where dietitians are expected to provide appropriate hospital menus.

In the tuberculous group, where patients are undergoing long periods of hospitalization and are permitted a minimum of exercise, the dietitians try to tempt fluctuating appetites with a variety of fresh fruits and vegetables, the use of individual cuts of meats, crisp salads, relishes and garnishes, with special emphasis on attractive servings.

In the neuropsychiatric group also, the period of hospitalization may be long, but patients can enjoy greater activity and bring healthy appetites to the meal hour. Consequently simple nourishing foods, the creamed and scalloped dishes, boned meats, stews and gravies that often prove unpopular in a tuberculosis hospital are well liked by the majority in a neuropsychiatric institution. The acceptability of food items by both patients and personnel in all hospitals is carefully noted and items that are not popular are served rarely, if at all.

The operation of farm activities at most of the neuropsychiatric facilities as a form of occupational therapy for some of the patients presents certain complications to dietitians in menu making. Effort is made to utilize fully

the farm products as fast as they reach maturity without undesirable repetition on the menu. When surpluses result in spite of careful planning on the part of the farm superintendent and others concerned in the farm work, the dietitian must use good judgment to prevent waste of these supplies. She changes menus with alacrity, serves items in various ways to avoid monotony and cans, preserves or pickles vegetables and fruits for use later on as the occasion demands.

Although the menus for the general medical and surgical group may include all items popular in the other two groups of hospitals, the variety of special diets ordered as a part of the medical treatment of the patients affects the regular menu materially. Since the therapeutic diets often outnumber the routine ones, it is particularly important that the dietitian in this type of hospital keep special diet requirements well in mind as she plans the basic menu. Without unnecessary deviation from the regular diet she must still provide carefully for diabetics, nephritics, anemia, allergy and ulcer patients, cardiac conditions and all the other complications for which dietetic treatment is indicated.

In all three types of Veterans' Ad-

ministration hospitals the proportion of special diet orders has increased rapidly in late years, as is to be expected with the increase in infirmity type patients and the advance in scientific knowledge of the rôle of diet therapy in the treatment of disease. In line with medical progress the Veterans' Administration physicians are giving more and more thought to basic nutritional needs and are correcting disorders due to faulty nutrition by means of establishing the proper dietetic regimen.

To this medical program the dietitians in the hospitals of the Veterans' Administration are giving loyal and conscientious support. At the present time there are 200 of them with approximately 3,500 persons under their supervision. During the last fiscal year these hospital dietetic departments prepared and served more than twenty million rations consisting of three meals daily. The thousands of menus covering these meals reflect the conscientious efforts of the Veterans' Administration dietitians to plan carefully and thoughtfully, considering all factors involved, and thus provide the most satisfactory meals within budgetary limitations that will meet the nutritional requirements of the groups they serve.

The China Purchase Act

By James C. Gliemmo

IN BUYING chinaware for hospitals the type of patients to be served should be taken into consideration—wealthy, middle class, charity. Regardless of the type of patients, however, certain principles and essentials should govern the purchase.

Two types of chinaware are manufactured in this country—vitrified and semi-porcelain. Semi-porcelain ware is porous and since it has not been fired to the vitrification point it does not have the strength to withstand the abuses encountered in institutions. Vitrified ware, which has been fired to the vitrification point, will withstand rough handling to a greater degree and is the only type that should be considered for hospital use.

The glaze, an important adjunct to chinaware, is glass in a liquid form, which turns to transparency when subjected to a high degree of temperature. This coating seals the bisque which prevents absorption and also covers the design underneath it. As long as the glaze retains its life the chinaware will be in a usable condition. The loss of the glaze works havoc with china, leaving an unsightly appearance of fading pattern and discoloration. It is

therefore advisable to be certain the chinaware you buy is manufactured by a reliable pottery, which is an assurance that the glaze will be of adequate thickness, durable and properly seasoned. This precaution will pay dividends in the long run.

Designs applied over the glaze should never be considered for they will not endure daily washings in modern dishwashers or withstand the constant use of washing powders. The effects of these on an overglazed pattern would be observed in a short time. The pattern would be worn off leaving the service in a dismal condition. Replacements would come oftener, consequently it would be more expensive.

To some individuals weight indicates strength and long life. The facts are contrary to that assumption. A cheap ware can be purchased that has much weight, but that does not necessarily mean that it has strength. To manufacture a durable product that has strength, beauty, and long life, the best materials and the best method of manufacture are necessary. All these attributes will give a quality ware. For institutional service a medium weight is ample and answers well.

How much should a child grow or gain from time to time?

That is more significant than mere weight and height measurements

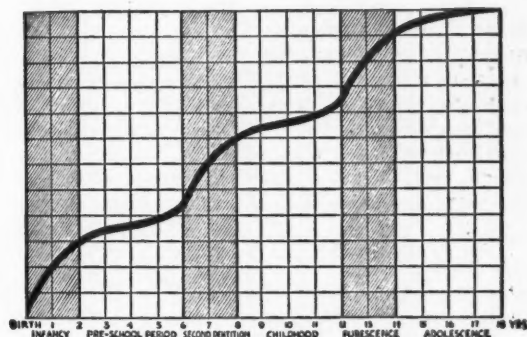
TO THE PARENT the mark on the wall and the reading on the scale reveal the child's growth. But *to the doctor* deviations from the periodic gains offer a sensitive index of dietary or disease disturbances.

The weight curve in infancy furnishes the most delicate index of progress. The birth weight doubles at five months and trebles at a year. Thereafter gains are slower; six pounds during the second year; five during the third; four during the fourth and fifth years. The trend of the first growth cycle is indicated in the chart.

THIS pattern of growth repeats itself during childhood and adolescence. Once the growth increments have been determined for a child, his assessment becomes individual and accurate.

When the child fails to gain in weight, high caloric feeding is simplified by reinforcing food with Karo Syrup. If the total caloric intake exceeds the output, the child will gain weight, provided the diet is adequate and chronic disturbances corrected.

★ Infant feeding practice is primarily the concern of the physician, therefore, Karo for infant feeding is advertised to the Medical Profession exclusively.



CYCLES OF GROWTH FROM BIRTH TO MATURITY
The course of growth from birth to maturity is continuous but rhythmic. This span includes three cycles. The rapid growth in infancy is followed by the slow growth during the pre-school period; the rapid growth during the period of second dentition is followed by the slower growth during childhood; finally, the rapid growth during pubescence is followed by the slower growth during adolescence.

From Kugelmass' "Growing Superior Children", 1935.
(Appleton-Century)

Every Article of Diet can be Enriched with Calories

Karo provides 60 calories per tablespoon. It is relished added to milk, fruit and fruit juices, vegetables, vegetable waters, cereals, breads and desserts. Karo consists of dextrins, maltose and dextrose (with a small percentage of sucrose added for flavor).

For further information, write
CORN PRODUCTS SALES COMPANY
Dept. H-3, 17 Battery Place, New York, N. Y.



The selection of a pattern is difficult. It requires time and deliberation to be certain that the proper design and shade of the body will harmonize with the color scheme of the institution. However, in a number of hospitals several patterns are used on different services which breaks the monotony for the patients. Patterns should be chosen that can be easily duplicated, if necessary, by some other pottery.

It is desirable to buy domestic ware. No doubt many buyers feel that imported chinaware is superior to domestic but to me that is a matter of opinion only. Perhaps years ago the better grades of china did come from foreign manufacturers, but in the last decade American potteries have manufactured a ware that is on a par with any imported ware for institutional use. Since there are no distinct advantages of one over the other, the domestic chinaware should be given preference.

The chief drawback to the use of foreign ware is the replacement hazard. That alone should be a deciding factor against such purchases. Information to the contrary is misleading, for in the last few years certain distributors of foreignmade chinaware

have discontinued this service because it became difficult for them to maintain stocks on account of the monetary exchange and other government complications.

The selection of proper sizes, shapes and patterns for the hospital tray service is important. The table service is not appropriate because the pieces are too large. An attractive tray appeals to the esthetic sense of the patients and that consideration should be given them.

From whom should you purchase your chinaware? Of course after all your requirements have been met and a selection made as to pattern, quality, size and composition, the next important step is the reliability of the distributor. Can he supply your wants at a reasonable price? Can he give you prompt delivery service? Will he be willing to carry on hand a limited quantity of your pattern for immediate delivery, if necessary? Is his financial credit in such a condition that the pottery will make prompt shipment of orders presented by him? My experience has shown that this is vital in the purchase of chinaware. If this is not given consideration delivery may in many cases be indefinitely delayed.

table. All of the controls and switches are accessible and easy to operate. The horizontal position makes it easy to work with and facilitates uniformity in the freezing mixture. It has an intake near the rear end through which fruit, nuts and solid material may be easily added when the process of freezing is partly finished.

The dasher is of unique design. Its



Counter ice cream freezer installed at Children's Memorial Hospital, Chicago.

blades are pitched and spaced in a way demonstrated by experiment to be best for thorough mixing.

A device at the outlet empties the frozen mixture in a stream from the freezer into the container for hardening, whether it be emptied into bulk containers or individual molds and packages. By this means dipping is dispensed with, and the process is sanitary and time-saving. The hardening cabinet rests flat on the floor and is smoothly joined at the seams and corners. It ranges in size from 20 to 60-gallon capacity.

Counter freezers are an advantage to hospitals from two standpoints—their construction is well adapted to the needs of an institution in which it is necessary to conserve space and time of operation, and their process of freezing is effective in producing uniform quality and texture with any combination of materials to be frozen.

In hospitals having a large children's ward or a medical service requiring many prescribed diets, it is important that the dietitian know the composition of the dessert. In the modern hospital all menus are planned with thought for at least the approximate content and correct relation of their nutritive elements; in the home-made dessert these factors are more readily determined and controlled.

These counter freezers call for an initial expenditure of from somewhat less than \$1,000 up to \$1,600, but their upkeep is relatively low. Today, most of the commercially made frozen desserts are wholesome and produced in sanitary surroundings, but many hospitals have found that they can make frozen desserts for considerably less than they can be purchased.

Fast Freezing for Desserts

By Lulu G. Graves

FROZEN desserts and beverages are popular with practically all patients in the hospital, regardless of age or nationality. With the recently devised rapid freezing units, these desserts may be served frequently to all groups in the institution and in as great variety as desired. By using this method in the cafeteria service, it is a simple matter to have a choice of flavors or a choice of ice cream, sherbet, ices or frozen custards.

Processes of freezing have changed within the past few years, and rapid freezing at a very low temperature has been found to give better results than were obtained by previous methods. Instead of a freezing medium at a temperature of 10° to 15° F., and a hardening room temperature not above 10° F., ice cream manufacturers now consider a temperature of -10° to -15° F. better for freezing, with the hardening room temperature not above zero.

These figures are not absolute, nor do they apply literally to the smaller quantities produced in a hospital; they are given merely to illustrate the change in procedure brought about by experimentation to produce a better

quality. When the higher temperature and longer time process are used, the ice crystals form more slowly in the mixture and are larger; when heat is extracted more quickly from the mix, crystals form more readily and are smaller, the texture is better, the refrigerant is shut off sooner and the overrun more quickly obtained.

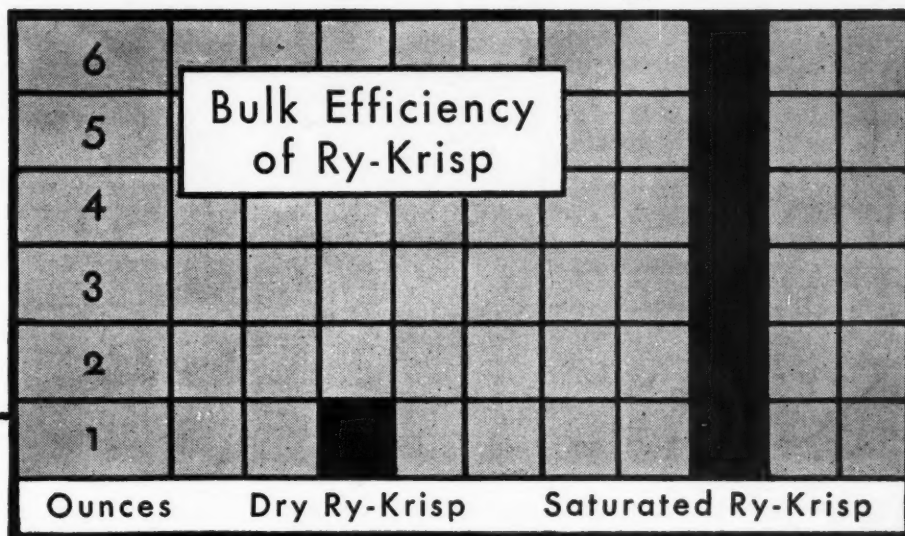
The operator should be experienced in judging when the mix is ready to be transferred to the hardening cabinet. When one wishes a richer, heavier dessert, the overrun may be reduced. The more concentrated mixture is desirable, also, when schemes must be devised for introducing a maximum of milk, eggs, cream, fruit or fruit juice into the menu. Because the temperature of the faster frozen mixture is lower than that frozen more slowly, less time is required in the hardening cabinet.

Several models of counter rapid freezers are on the market. The one illustrated has the freezer and hardening cabinet in a compact unit requiring about the same amount of space as the ordinary storage cabinet. The freezing unit may be placed in either a horizontal or upright position on the

CAN YOU BLAME A PATIENT

for preferring Ry-Krisp
as a corrective for

Common Constipation?

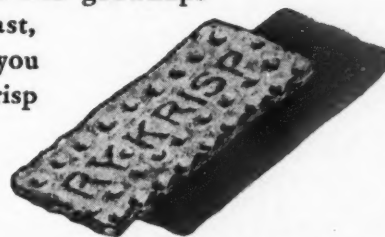
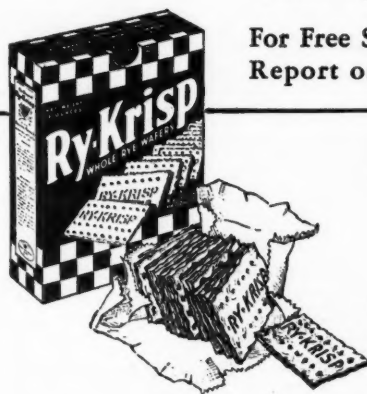


When a delicious food will also act as a *natural* corrective for common constipation it's easy to understand why patients prefer Ry-Krisp in a corrective diet.

As the chart indicates, Ry-Krisp has extraordinary bulk efficiency. Due to its low water content (only 6.8%) and porous structure each wafer is capable of absorbing five times its weight in water. Thus these wafers, enjoyed as a regular and welcome part of each meal, plus the meal's ordinary quantity of liquid, produce bulk to stimulate peristaltic action. They are further valuable since, being made of whole rye, salt and water, they also provide a high percentage of bran, high pentosan and crude fiber content—all encouraging to normal bowel action.

The unusual palatability of Ry-Krisp makes children and grownups glad to eat it as crackers, toast or bread at breakfast, lunch or dinner. Thus the effectiveness of the diet you prescribe is doubly insured when you say "Ry-Krisp Whole Rye Wafers."

For Free Samples and the Research Laboratory Report on Ry-Krisp, use the coupon below.



RALSTON PURINA COMPANY
Dept. MH, 1874 Checkerboard Square, Saint Louis, Missouri

Please send me, without obligation, samples of Ry-Krisp and a copy of the Research Laboratory Report on Ry-Krisp.

Name _____ Address _____

City _____ State _____

(This offer limited to residents of the United States and Canada)

Ward Tray



Passavant Memorial Hospital, Chicago, Evelyn Anderson,
Formerly Chief Dietitian.

Vegetable Market Basket



Lettuce
Tomato

Peas
Cauliflower

String beans
Carrots

On a bed of lettuce place a hollowed out red ripe tomato, cut in fancy form. Fill center with a mixture of fresh green peas, rosettes of boiled cauliflower, string beans and very tiny carrots, or a mixture of any well prepared colorful vegetables. Serve with plenty of French dressing.

The vegetables should not be overdone. They should be well seasoned (not flat), and should have their natural colors. They should be thoroughly chilled and drained. The small carrots can be made from large ones. A little green pepper stem can be pushed into the large end for effect. This salad is effective and well worth the time necessary to prepare it.—*Arnold Shircliffe, Chicago.**

*Author of the Edgewater Beach Salad Book.

FOOD FOR THOUGHT

● The dietitians who took the institutional management course at New York Hospital, New York City, under the direction of Margaret S. Gillam were so well pleased with the experience that they probably have enthused many other dietitians to look forward to such an opportunity. Many will welcome the announcement of the course for next summer. It is called the "Field Practice Course" and lasts about six weeks. It offers observation and experience in management of food service in the hospital in the administrative field. There will be opportunity for food ordering, purchasing, control of stores and other phases of the problem. About half the time will be given to diet in relation to disease, with the usual opportunity for clinical work. Those interested may obtain further information by writing to Teachers College, Columbia University, mentioning Institutional Management 3207 G.

● Some time ago a quick chemical test for the antineuritic vitamin B-1 was announced. This discovery was made by Dr. E. V. McCollum and Dr. H. J. Prebluda of Johns Hopkins School of Hygiene and Public Health. With this method they have shown that yeast and whole grain are good sources of the vitamin, and that it is present in lesser amounts in other foods. Word has come from another laboratory that an even richer source of this vitamin has been found, and a report of these new findings will appear in the literature before long. While the vitamin in crystal form is now obtainable, it is still so difficult to prepare and so expensive that the use of foods rich in the vitamin will be a more practical way of obtaining an adequate supply.

● An Eastern dietitian stated that when she realized that nurses were getting tired of "the same old thing," she began introducing unusual foods. Now she serves spoon bread, muffins, salads of greens, and Spanish rice instead of potatoes, very often. She has also found that by serving dinner at night a less expensive noon meal can be served than when dinner is served at noon and supper at night. For lunch, soup, salad and dessert are welcomed, but this type of meal would not be satisfactory for supper. Sunday dinner is served in the middle of the day. She found that the nurses were tired of the usual cold supper which is used in so many institutions on Sunday night, so once every few weeks she serves a buffet supper with cold meats, cheese, sandwich spreads, pickles and various other things. The nurses consider this a party, and it is a simple way of serving the Sunday night meal when there is a shortage of maids.

VITAMIN REQUIREMENTS OF MAN

I. VITAMIN C.

• Vitamin C is known to play an important role in human nutrition. Severe deficiency of this factor results in scurvy. It has been estimated by the Committee on Nutritional Problems of the American Public Health Association (1934) that the minimum daily intake of vitamin C (cevitamic acid) required to protect against scurvy increases from approximately 100 International units (5 mg. cevitamic acid) for the infant to 300 International units (15 mg. cevitamic acid) for the adult (1).

Vitamin C intake of this order of magnitude prevents the development of clinical scurvy, however, it is probably inadequate for optimum nutrition. Clear cut cases of scurvy seldom are seen in this country although some authorities believe that symptoms of a mild deficiency of vitamin C are not uncommon (2).

Referring to nutritional deficiency diseases in general it has been said that, "Almost every tissue in the body may be affected by a deficiency in a food factor" (3).

The tissues generally recognized as affected by deficiency of vitamin C are the endothelium of the blood vessels and the teeth. It has been suggested that to prevent the development of subclinical symptoms, a daily intake of 380 to 540 International units of vitamin C is required for a 130 pound adult (4).

Thus it would appear that the optimum in-

take of vitamin C is at least twice the amount required to protect against scurvy.

Data recently published demonstrate that the vitamin C content of human milk is dependent upon the vitamin C content of the maternal diet (5).

Hence when the diet of the lactating mother is low in vitamin C, this factor is also deficient in the milk.

The League of Nations Technical Commission recommends an intake of over 500 International units per day during pregnancy and lactation (6).

The inclusion in the diet of liberal quantities of fruits and vegetables, prepared in such a manner as to retain a major portion of the original vitamin C content, may be relied upon to supply the need for this vitamin. The value of commercially canned foods as anti-scorbutics has been repeatedly demonstrated during the past decade (7).

More recently, the vitamin C content of many commercially canned fruits and vegetables has been determined and the results expressed in International units (8).

Consideration of two factors, namely, the quantitative requirement of the human for vitamin C, and the vitamin C potencies of commercially canned fruits and vegetables, emphasizes the value of these protective foods as sources of vitamin C.

AMERICAN CAN COMPANY

230 Park Avenue, New York City

- (1) 1934-35. Am. Pub. Health Assn. Year Book. Page 71
(2) 1933. Chemistry of Food and Nutrition. H. C. Sherman. 4th Ed. Page 421 MacMillan, New York

- (3) 1936. J. Am. Med. Assn. 106, 261
(4) 1934. Nature 134, 569
(5) 1936. J. Nutrition 11, 599

- (6) 1936. League of Nations Report on Physiological Bases of Nutrition, League of Nations Publication Department, Geneva.

- (7) a. 1925. Ind. Eng. Chem. 17, 69
b. 1928. Ibid. 20, 202
c. 1933. Ibid. 25, 682
(8) a. 1935. J. Nutrition 9, 667
b. 1936. Ibid. 11, 383
c. 1936. Ibid. 12, 405

This is the twenty-second in a series of monthly articles, which will summarize, for your convenience, the conclusions about canned foods which authorities in nutritional research have reached. We want to make this series valuable to you, and so we ask your help. Will you tell us on a post card addressed to the American Can Company, New York, N. Y., what phases of canned foods knowledge are of greatest interest to you? Your suggestions will determine the subject matter of future articles.



The Seal of Acceptance denotes that the statements in this advertisement are acceptable to the Council on Foods of the American Medical Association.

April Breakfast and Supper Menus

By Sister Mary Victoria

Director, Department of Nutrition, St. Mary's Hospital, Rochester, Minn.

BREAKFAST			SUPPER				
Day	Fruit	Main Dish	Meat	Potato or Substitute	Vegetable	Salad or Relish	Dessert
1.	Sliced Oranges	Scrambled Eggs	Broiled Ham, Pineapple Slices	Stuffed Baked Potatoes	Fresh Asparagus		Royal Anne Cherries, Ice Box Cookies
2.	Stewed Apricots	Bacon	Creamed Chicken in Patty Shells		Spinach Pudding	Grapefruit Salad, French Dressing	Baked Custard
3.	Tomato Juice	Fried Eggs	Macaroni Mousse		Vinegar Beets	Pea, Pickle and Cheese Salad	Strawberries
4.	Prunes	Canadian Bacon	Vegetable Soup, Egg Salad and Pimiento Cheese Sandwiches			Mixed Fresh Fruit Salad	Jelly Roll
5.	Grapefruit	Bacon	Welsh Rabbit on Toast		Fresh Asparagus	Peach and Date Salad	Poppy Seed Cake
6.	Stewed Figs	Soft Cooked Eggs	Spareribs	Boiled Potatoes	Sauerkraut	Celery Hearts	Prune Whip
7.	Orange Juice	Ham	Meat Balls in Gravy	Potato Puff	Spinach With Bacon	Dill Pickles	Applesauce
8.	Stewed Peaches	Scrambled Eggs	Lamb Chops		Cauliflower, Harvard Beets	Shredded Lettuce and Diced Orange Salad, French Dressing	Nut Bread
9.	Oranges	Link Sausage	Veal Soufflé	Baked Potatoes	Green Beans	Black Cherries Stuffed With Nuts	Sponge Cake
10.	Sliced Bananas	Poached Eggs	Escalloped Oysters		Baked Squash	Tomato Aspic, Mayonnaise	Green Gage Plums
11.	Stewed Raisins	Fried Eggs	Canadian Bacon	Corn Pudding		Pickled Beets	Pears and Cookies
12.	Orange Juice	Ham	Cream of Tomato Soup, Tunafish Salad	Potato Chips		Cucumber Pickles and Olives	White Cherries, Devil's Food Cake
13.	Fresh Rhubarb	Scrambled Eggs	Liver and Bacon		Lima Beans	Grated Carrot and Celery Salad	Fresh Fruit Cup
14.	Stewed Apricots	Bacon	French Onion Soup, Cold Meat	Spanish Rice		Shredded Lettuce, Bacon Dressing	Blue Plums and Cookies
15.	Grapefruit Juice	Soft Cooked Eggs	Giblet Soufflé	Baked Potatoes	Fresh Spinach	Mixed Fruit Salad	Whole Wheat Muffins With Jam
16.	Oranges	Canadian Bacon	Sausage	Hot Potato Salad	Creamed Peas	Celery Hearts	Fresh Strawberries and Vanilla Wafers
17.	Bananas	Fried Eggs	Italian Spaghetti		Fresh Asparagus	Pineapple and Cottage Cheese Salad, Mayonnaise	Layer Cake With Cream Filling
18.	Applesauce	Bacon	Ham Loaf	Buttered Noodles	Carrots	Sweet Pickles	Fruit Gelatin
19.	Tomato Juice	Link Sausage	Tunafish à la King on Biscuits		French Green Beans	Radishes, Celery and Olives	Raspberries and Spice Cake
20.	Canned Grapefruit	Scrambled Eggs	Tomato Bouillon, Meat, Rice and Vegetable Casserole			Chinese Cabbage, Russian Dressing	Baked Apple
21.	Sliced Oranges	Ham	Chicken Salad	Potato Chips	Cauliflower, Cheese Sauce	Mixed Sweet Pickles	Cup Cake With Crushed Pineapple
22.	Applesauce	Fried Eggs	Escalloped Ham and Potatoes		Wax Beans	Fresh Fruit Salad	Oatmeal Cookies
23.	Stewed Apricots	Bacon	Broiled Sweetbreads	Spanish Rice		Asparagus Tips, Thousand Island Dressing	Sliced Orange With Coconut
24.	Fresh Grapefruit	Buckwheat Cakes	Creole Eggs	Baked Potatoes		Watercress Salad, French Dressing	Sliced Peaches
25.	Stewed Prunes	Canadian Bacon	Baked Beans		Broiled Half Tomato	Mixed Fruit Salad	Cornbread With Jelly
26.	Orange Juice	Bacon	Cream Asparagus Soup, Cold Ham	Potato Salad		Radishes	Seedless Grapes, Coconut Layer Cake
27.	Stewed Peaches	Poached Eggs	Chop Suey	Rice		Pickled Beet With Hard Cooked Egg Garnish	Fruit Cup
28.	Grapefruit Sections	Canadian Bacon	Liver and Onions	Potatoes au Gratin		Combination Fresh Vegetable Salad	Apricots
29.	Stewed Rhubarb	Scrambled Eggs	Baked Noodles and Chicken		String Beans	Celery and Olives	Frozen Fruit Salad, Butter Cookies
30.	Sliced Bananas	Ham	Cream of Mushroom Soup		Vegetable Casserole	Deviled Egg Salad	Fresh Strawberries and Cream

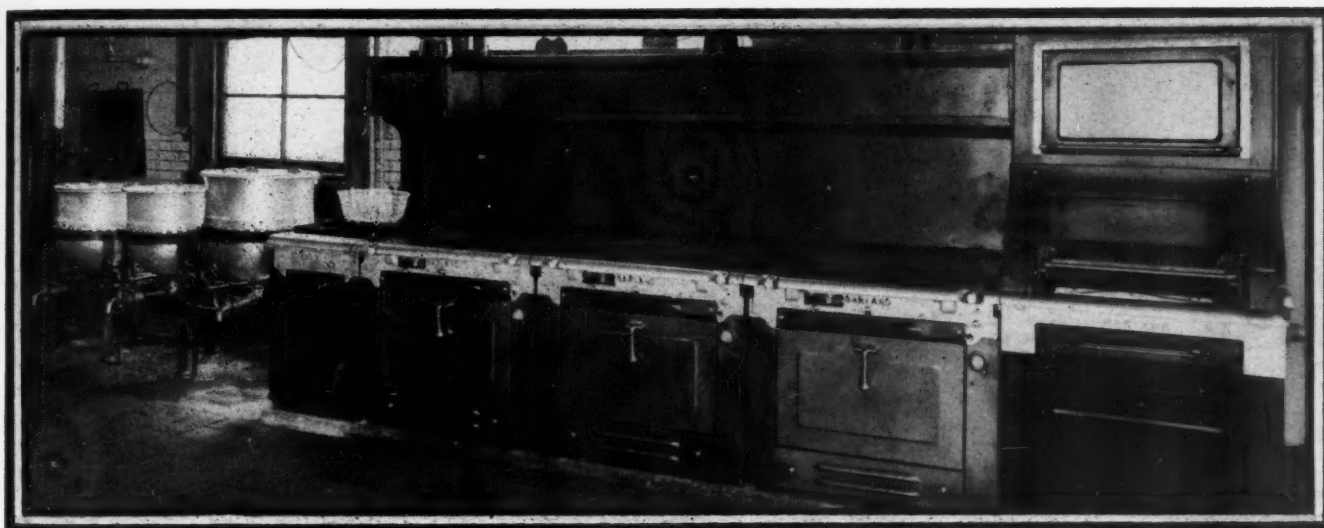
Recipes will be supplied on request by Anna E. Boller, The MODERN HOSPITAL, Chicago.

HARRISBURG HOSPITAL

HARRISBURG PENNSYLVANIA

Specified

GARLAND



Whether the installation is huge or a one or two unit requirement, Garland delivers dependable economies that will put your operations on a sounder financial basis. Garland is a scientifically built heating-for-cooking appliance that has been designed and perfected, through 70 years of experimenting, to be automatically economic in its service. Quality construction, radiant Ceramic heating, unrivaled precision in performance—all contribute savings and cost-cutting that make it more profitable to own a new Garland than to be without it. Ask Any Garland User! Let us show you how it will pay you to modernize with Garland.

Gas
IS THE IDEAL FUEL

and at its best when used with Garland
Heavy Duty Equipment.

DETROIT-MICHIGAN STOVE CO.

DETROIT MICHIGAN

NEWS IN REVIEW

Labor Trouble Causes Disquietude in Hospital Field; Green Issues Statement

"Be assured that it is neither the purpose nor the policy of the American Federation of Labor, in organizing hospital employees, to handicap hospital procedure or to bring about discomfort or embarrassment to hospital patients. We firmly oppose any action on the part of hospital nurses and attendants that would in any way interfere with continued and uninterrupted service and attention to hospital patients by nurses, physicians and hospital attendants."—William Green, president, American Federation of Labor, in statement to *The MODERN HOSPITAL*.

Labor unrest and the unionization of hospital employees became front page news last month when the maintenance employees of Israel Zion Hospital, Brooklyn, N. Y., staged a sit-down strike to enforce their demand for a \$15 a month living allowance for living outside the hospital. This was dramatic but was only one of many episodes tending to focus attention of hospital administrators on the importance of personnel relations.

Another important event was the issuance by William Green, president, American Federation of Labor, of a statement to *The MODERN HOSPITAL* opposing any action by labor unions which would "bring about discomfort or embarrassment to hospital patients."

The strike at Israel Zion Hospital followed a fire in the nurses' home on January 17 in which one nurse lost her life. A grand jury investigation of the fire was being carried on at the time the strikers made their demands. The *New York Journal*, which has been carrying on a muck-raking campaign against New York hospitals, alleging bad working conditions for employees, stated that the grand jury would extend its investigation to include other hospitals in Brooklyn. How far political considerations lie back of these attacks has not been revealed.

The original demands of Israel Zion workers included not only the \$15 allowance but also recognition of their union, Hospital Employees Union, Local 171, affiliated with the Building Service Employees Union of the American Federation of Labor.

During the strike the workers continued to feed the 290 patients and the 90 babies in the hospital but refused to provide meals to doctors, interns, nurses and other employees who were given vouchers on near-by restaurants. The most serious inconvenience was said to be a threatened shortage of linen. Only one day's supply was on hand and fifteen laundry

workers barricaded themselves in the laundry to prevent its further use.

A compromise settlement ended the strike on the second day. The workers were given the \$15 a month allowance and assurance that no punitive action would be taken against any of the strikers, but recognition of the union was not granted.

The campaign of the *New York Journal* consisted of the usual type of feature articles, pictures, cartoons and interviews showing alleged bad conditions under which employees of New York hospitals are reputed to work. The campaign was timed to coincide with the consideration of the Austin Bill discussed elsewhere in this issue.

It was brought out at the meeting of presidents and secretaries of state and regional hospital associations in Chicago on February 15 and 16 that all of the governmental hospitals in Wisconsin and all of the state hospitals in Ohio have unions of their employees. So far no labor conflicts have been reported from either of these states.

A union of hospital employees has also been formed at the Minneapolis General Hospital. It is reported to include about one-half of the employees, such as the orderlies, maids and junior clerks.

It was also reported last month that a "strike" was in progress at St. Michael's and St. Joseph's Hospitals in Toronto. The "strike" consisted in employing pickets to parade in front of the hospitals announcing the existence of a strike while the employees actually were inside carrying on their duties.

Dietitians Publish Bulletin

A bulletin is being published by the Texas State Dietetic Association at Houston, under the editorship of Irene Pope Hardy, Rice Institute, assisted by Blake Bryson, and Mary E. Smith, of Memorial Hospital, Houston.

Columbia Offers Program of Study for Specialists

Announcement is being made of a program of graduate medical education to be given at Columbia University for the Doctor of Medical Science Degree. Twenty-five New York hospitals will cooperate with the university in the fields of dermatology, internal medicine, neurology, obstetrics and gynecology, ophthalmology, orthopedic surgery, otolaryngology, pathology, pediatrics, psychiatry, radiology, surgery, tropical medicine and urology.

Requirements for candidacy for the degree, which will designate a doctor as a specialist, are graduation from a medical school approved by Columbia and completion of an internship of not less than one year in a hospital approved by the university. The program calls for a period of study of not less than three years in the university or in hospitals and laboratories recognized by it.

Intensive graduate training and original work in one of the basic medical sciences related to the specialty selected will be undertaken by the candidate who must spend not less than eighteen months of this three years in the hospital, clinics and diagnostic laboratories of the specialty selected. Written, oral and practical examinations, and a dissertation—and a doctor may write Med.Sc.D. after his name.

I. H. C. to Be Followed by Private Hospital Meeting

Among the many meetings scheduled at about the same time as the International Hospital Conference, which is meeting in Paris, France, July 6 to 11, is the Second International Congress of Private Hospitals and Nursing Homes, which is convening in Paris, July 12 to July 17.

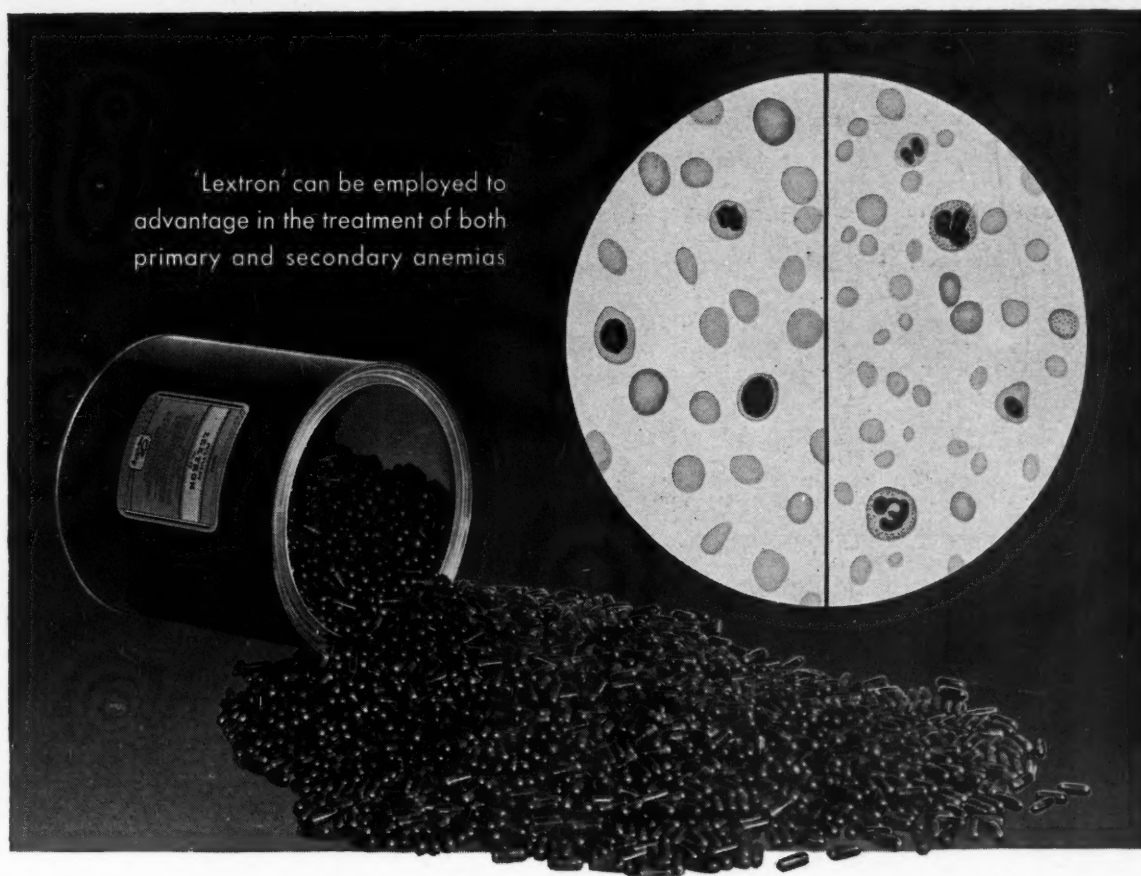
At the request of the committee on international relations of the American Hospital Association, the American Express Company is offering a series of itineraries for the benefit of those desiring to attend the congress. All tours are based on a June 26 sailing date from New York City.

The tourists will inspect the hospitals at Lyons, the spa at Aix-les-Bains, Geneva, Montreux, Leysin and Dr. A. Rollier's hospital, Interlaken, Lucerne, Heidelberg, Wiesbaden, Rhine, Cologne, Amsterdam, The Hague, returning to London on July 25.

Nurses to Meet in London

The Quadrennial Congress of the International Council of Nurses will be held in London, England, July 19 to 24. Plans for the congress include visits to famous English hospitals.

'Lextron' can be employed to advantage in the treatment of both primary and secondary anemias



IN THE ANEMIAS

BASED on therapeutic response, which is measurable with a high degree of accuracy, 'Lextron' (Liver-Stomach Concentrate with Iron and Vitamin B, Lilly) is lower in price than any other treatment of its kind, not excluding raw liver.

'Lextron' combines in convenient form for oral administration, liver-stomach concentrate with

iron, and promotes both erythrocyte and hemoglobin formation. It can therefore be employed to advantage in the treatment of both the primary and secondary anemias, as well as in many clinical conditions in which loss of appetite, weakness, fatigability, or undernutrition is in evidence. Supplied in hospital packages of 500 and 5,000 pulvules.

ELI LILLY AND COMPANY

PRINCIPAL OFFICES AND LABORATORIES, INDIANAPOLIS, INDIANA, U. S. A.

State Hospital Association Secretaries Meet to Discuss Troublesome Problems

In a lively discussion of hospital problems, delegates to the Association of American Secretaries confessed their worries and adopted a "we have just begun to fight" attitude before the adjournment of their two-day meeting in Chicago.

Social security, the Robinson-Patman Act, lien laws, liability and malpractice insurance, a suggested change in American Hospital Association dues, floods, publicity, exhibitors, educational policies, unions, small hospitals in relation to the association, and a bill to provide for the reimbursement of hospitals for hospitalization of recipients of old age assistance were all analyzed, torn apart, criticized and put together again on February 15 and 16. Arguments were heated and laughs were plentiful as Guy Clark of Cleveland and Carl Wright of Syracuse, N. Y., fought for the floor.

An endeavor to amend the Social Security Act to include hospital employees in the benefits of the act, taxing the employees for their share without also taxing the hospitals, is under consideration. A. E. Hardgrove, chairman, said that there was plenty of tradition for taxing hospital employees and hospitals had always been taxfree.

The secretaries indicated that they were definitely in favor of old age retirement benefits, but failed to agree as to whether these should be compulsory or elective. Maurice Dubin, formerly superintendent of Mount Sinai Hospital, Chicago, pointed out that it had been the experience of the Jewish Charities, which had endeavored to provide some sort of retirement provision for hospital employees, that the lower bracket employee, to whom it was most important, failed to realize the value of such a plan and unless it was made compulsory would not participate.

The bill to amend the general code and to enact supplementary provisions to the old age assistance law, relative to reimbursing nonprofit hospitals for hospitalization of recipients of old age assistance, met with about the least resistance of any suggestion made at the meeting. The suggested change in A. H. A. dues met with the most. Approximately ten of the states thought they would introduce the bill to their legislatures, but few of the delegates reacted favorably to the suggested change in dues.

Carl Wright, expressing the sentiments of a large portion of those attending, said that he felt it should be "whole hog or none," that the amount raised in this fashion would not be enough. A. F. Branton, president of the Minnesota association, maintained that what the association really needed

was more members, and he felt this method would not encourage an increase. He asked that dues be based on a bed capacity so that the smallest hospitals, those of two, ten or fifteen beds would be able to carry institutional memberships.

It was suggested that a study be made of the possibilities of mutual liability and malpractice insurance, since in some cases hospitals are unable to obtain this type of insurance and in almost all cases the rates are exceedingly high.

"Stop telling the public about your deficits. It's sick of hearing about them, and anyway it isn't interested." Guy Clark hammered and rehammered at this point throughout the discussion on publicity, maintaining that the public must be educated to an understanding of the actual cost of hospital care and made to pay for it. "Don't keep anyone out," he said, after Mr. Wright had pointed out that if you charged the cost of hospital care it would be prohibitive to those needing this care most. "Never keep anyone out. Let them in at \$1 or \$2 or whatever they can pay, but make your public realize that the difference must be made up, that it is an actual cost to be met by the community."

The adult rehabilitation program which was carried on in West Virginia was cited as an excellent example of the finest type of publicity. James W. Harris, executive secretary, said that the association's experimental rehabilitation program among 100 employables who were on relief, which had resulted in ninety-two returning to gainful employment and the adoption of a rehabilitation program by the state, had been directly reflected in community attitude and the attitude of legislators as, for example, in the care of indigents, where the state now cooperates fully with the hospitals.

St. Louis Council Begins Work

After several months spent in an organization program, the Hospital Council of St. Louis held its first meeting recently. F. W. Russe was elected president of the council, Aaron Waldheim, president of Jewish Hospital, was elected vice president; Sister Alphonsine, superintendent of De Paul Hospital, was made treasurer, and E. Muriel Anscombe, superintendent of Jewish Hospital, was chosen secretary. Matilda Tillotson, who has been assistant secretary of the Association of Western Hospitals and the Association of California Hospitals for two years, assumed the duties of executive secretary of the council on February 1.

New York State Hospitals Debate Eight-Hour Bill

Hospitals in New York are much concerned over the Austin Bill now under consideration in the legislature which would force all voluntary and private hospitals to adopt the continuous eight-hour day. The bill is receiving vigorous support from the *New York Journal* and from some members of the legislature.

Executives of New York hospitals declare that a compulsory eight-hour day without the opportunity of using split shifts would be too costly.

At a hearing in Albany on February 16 nurses appeared in uniform to support the bill. Miss M. Luciel McGorky of the Association of Hospital and Medical Professionals, speaking for the bill, stressed the safety factor and stated that in many hospitals nurses now worked for periods, then had short rests and went on duty again, so that they were sometimes working sixteen hours a day.

Speakers for the hospitals, according to the *Times* report, were F. C. Townsend of the Association of Hospital Trustees of Kings, Queens and Richmond; Thomas T. Murray, Memorial Hospital, Albany; Dr. William H. Spiller, New York Hospital and Lying-In Hospital; Dr. Fraser D. Mooney, Buffalo General Hospital; Dr. Joseph Turner, Mount Sinai Hospital, New York City; Rev. John E. Bowen of Buffalo, diocesan director of Catholic hospitals.

The hospital representatives contended that many private hospitals were finding it difficult to escape deficits. One speaker estimated that the additional expense of the straight eight-hour day would be \$4,200,000 in New York City and \$8,400,000 for the state.

East Bay Conference Elects E. L. Slack President

The East Bay Hospital Conference, composed of the eleven approved hospitals in Alameda County, California, held its annual meeting in Oakland, recently. Two subjects of import were presented to the meeting when Dr. Robert T. Legge, professor of hygiene and university physician of the Ernest Cowell Memorial Hospital, Berkeley, spoke on the control of venereal disease, and Dr. Benjamin W. Black, medical director of Alameda County Institutions, on the relationship of the county to the voluntary hospital.

Ellard L. Slack, superintendent, Samuel Merritt Hospital, Oakland, was elected president. Other officers selected by the conference were Doctor Black, who was named vice president, and Alfred E. Maffly, superintendent of Berkeley General Hospital, who was reelected secretary-treasurer.

DO NOISY CORRIDORS MAKE A

LOUD SPEAKER

OF YOUR PATIENTS' DOORWAYS?



**Sound-Condition Your Hospital . . .
Quickly, Quietly, at Low Cost . . . with**

**PAINTABLE PERMANENT
ACOUSTI-CELOTEX**

TRADE MARK REGISTERED

U. S. PATENT OFFICE

DO SOUNDS of voices, footsteps and other hospital activities "bounce" off your ceilings into bedrooms—and thus annoy patients and prevent restful sleep?

Acousti-Celotex will subdue these irritating noises—make your hospital *quieter*—because it absorbs sound waves the instant they strike its *patented perforated surface*.

It is quickly installed without interrupting normal routine. *It is paintable. And the cost of the entire installation is surprisingly little!*

Ask your nearest Celotex Acoustical expert to give you money-saving advice on sound-conditioning your hospital the modern way. You'll be under no obligation. If he is not listed in your Classified Telephone Directory under Acousti-Celotex—mail coupon now.

CELOTEX ACOUSTICAL PRODUCTS INCLUDE ACOUSTI-CELOTEX, ABSORBEX, CALICEL, CALISTONE, VIBRAFRAM (formerly Heerwagen Tile)

ACOUSTI-CELOTEX
SAYS "Hush" TO NOISE



AND ACOUSTI-CELOTEX
IS Paintable

- Acousti-Celotex is quickly installed by nailing or cementing over ceilings—in bedrooms, corridors, kitchen, and all other places where noises originate.
- It provides permanent sound-conditioning—because repeated painting or cleaning does not affect its efficiency.
- It is recognized by acoustical engineers as the standard of sound-conditioning efficiency.
- It is available in a washable enamel finish.
- It is used and approved by leading hospitals throughout the country.

See Catalog, 15th Hospital Yearbook

THE CELOTEX CORPORATION MH-3-37
919 N. Michigan Ave., Chicago, Ill.

Without obligation, please send me all facts on Acousti-Celotex and have a Celotex Acoustical expert get in touch with me.

Name.....

Address.....

City..... State.....

NEW BUILDING PROJECTS

CARMEL, CALIF.—A new nurses' cottage is to be constructed shortly at Peninsula Community Hospital at a cost of \$8,000.

BERKELEY, CALIF.—An office building for physicians and dentists is being planned for Berkeley General Hospital, according to Alfred E. Maffly, superintendent and general manager of the hospital. It will be a three-story building residential in appearance, Spanish in design and set in gardens.

SOUTHINGTON, CONN.—Preliminary plans for a hospital to be erected with funds left for that purpose by the late Julia A. Bradley have been completed and actual construction will begin early in the summer, according to the Hospital Corporation of Southington, the Hartford National Bank and Trust Fund, trustees of the estate, and the state department of health. The proposed building will be of fireproof construction, two stories high. Its basement will have garage space for an ambulance and three automobiles, and will also house an accident room, special clinics for social diseases, boiler room and laundry. The first floor will have an assembly room, with the rest of its space given over to public health work. On the second floor will be an operating unit, two small wards, two private rooms, nurses' quarters, kitchen and dining room. The fund for the hospital amounts to about \$425,000, but only \$100,000 will be used for its construction in order that an income for its maintenance will be certain.

WILMINGTON, DEL.—A roof garden is being constructed at Homeopathic Hospital, at a cost of \$20,000. It will include two open sun decks and an enclosed portion which will measure 50 by 40 feet. This last will be outfitted with special glass to permit the passage of the ultraviolet rays of the sun. A completely equipped physiotherapy department with six treatment cubicles will be housed here. . . . A hydro-electric emergency unit is being built into the \$200,000 annex of St. Francis Hospital. The unit will provide emergency lighting in the delivery and operating rooms, corridors and fire escapes, and will provide power for elevators. The first floor of the annex is to house the hospital's clinics, the second floor a twenty-two-bed maternity department, and the third floor, delivery rooms, labor room and an isolation unit.

JEFFERSON, IOWA.—December, 1937, is the completion date for Green County's new public hospital. Located on a knoll at the west edge of the city, the

hospital will face south on its 15-acre tract. It is to have a capacity of thirty beds and cost \$100,000. In the basement will be a dining room, kitchen, storeroom, examination and emergency room, laundry, x-ray department, plaster cast room, laboratory, custodian's quarters, boiler room and an isolation ward. The first floor will include four single rooms, two double rooms and two 4-bed rooms, a waiting room, office, quarters for the superintendent, utility rooms, a serving kitchen and two solariums. The second floor will accommodate two single rooms, a double room, two four-bed wards, a delivery room, nursery and surgical suite.

ST. LOUIS.—For the next sixteen months the inadequate observation ward at City Hospital will have to continue in use, for it is estimated that the construction time of the million dollar Malcolm A. Bliss Psychopathic Institute will not be up until June, 1938. At the end of that time, the department on mental diseases will be presented with a six-story building, Georgian in architecture, with a basement and a penthouse, and beds for 185 patients. The basement of the building will be devoted to service shops, the ground floor to hydrotherapy, occupational therapy and related treatment facilities. The out-patient department and administrative offices will occupy the first floor, the second and third floors will be given over to white patients, the fourth floor to colored, and the fifth to an operating department and to quarters for the interns.

LONG BRANCH, N. J.—Plans for the proposed \$800,000 building to replace the present Monmouth Memorial Hospital building have been drawn and tentatively accepted by the hospital's board of trustees. A new building, to serve as a central or main building and house private and semiprivate patients, is the keynote of the plan. The present Wimpfheimer building, a new addition to the hospital, will be remodeled for ward patients and the present wing, running north from this building, will be reconstructed to house the out-patient building.

Rome, N. Y.—Rome Hospital and Murphy Hospital, have plans for a new building on the site of the old Murphy Memorial. The new hospital will replace the two former buildings and will contain about 125 beds. The architects are Bagg and Newkirk of Utica, in association with Harold G. Rice of Rome. Charles F. Neergaard of New York City has been appointed consultant.

St. Louis Dedicates New Negro Hospital

Thought to be the finest institution of its kind is the recently completed Homer G. Phillips Hospital for Colored at St. Louis. Erected and equipped at a cost of \$3,000,000, the new 600-bed hospital is to replace City Hospital No. 2. It occupies two city blocks in the heart of the Negro residential district, and consists of an administrative building with two ward wings, a service building and a nurses' and superintendent's home.

Dedicatory ceremonies were held on Washington's Birthday, with a parade in which about 3,000 persons participated opening the program. Harold G. Ickes, Secretary of the Interior, was among the group of speakers which included Dr. John L. Mulloney, dean of Meharry Medical College; Dr. M. O. Bousfield, vice president for Negro hospitalization of the Rosenswald Fund; Dr. Roscoe Giles, president of the Negro Medical Association, and Dr. Neuma P. J. Adams, dean of Howard University Medical School.

The program was held at the hospital entrance, speakers addressing the listening thousands from a platform erected for the occasion.

N. Y. C. Adds Children's Unit

A Children's Detention Hospital, intended solely for the reception of children of doubtful mental status, in order that their eligibility for admission to state hospitals and schools for mental defectives may be determined, has been added to the Department of Hospitals, New York City, as a unit of the department's psychiatric division. The building was formerly a part of St. Mark's Hospital, and was completely remodeled and renovated by the department for its new use. Seventy-six children were transferred during the past month from the Parental School at Flushing, L. I., to the new hospital, the last of an original group of 1,000 who were hospitalized on Randall's Island until the construction of the Tri-Borough Bridge made their removal necessary.

From Jersey City to Tokio

Dr. H. Haruki, Tokio, Japan, while in London, England, heard talk of the Hudson County tuberculosis hospital and sanitarium under construction at Jersey City, N. J. It interested him sufficiently to cause a revision in his plans to permit him to visit Dr. B. S. Pollak, superintendent of the institution, and study the building's plans and specifications. According to Doctor Pollak, Doctor Haruki expects to incorporate many of the institution's outstanding improvements in the plans for a tuberculosis hospital to be erected at Tokio.

PROFESSIONAL

APPAREL

FOR THE

HOSPITAL

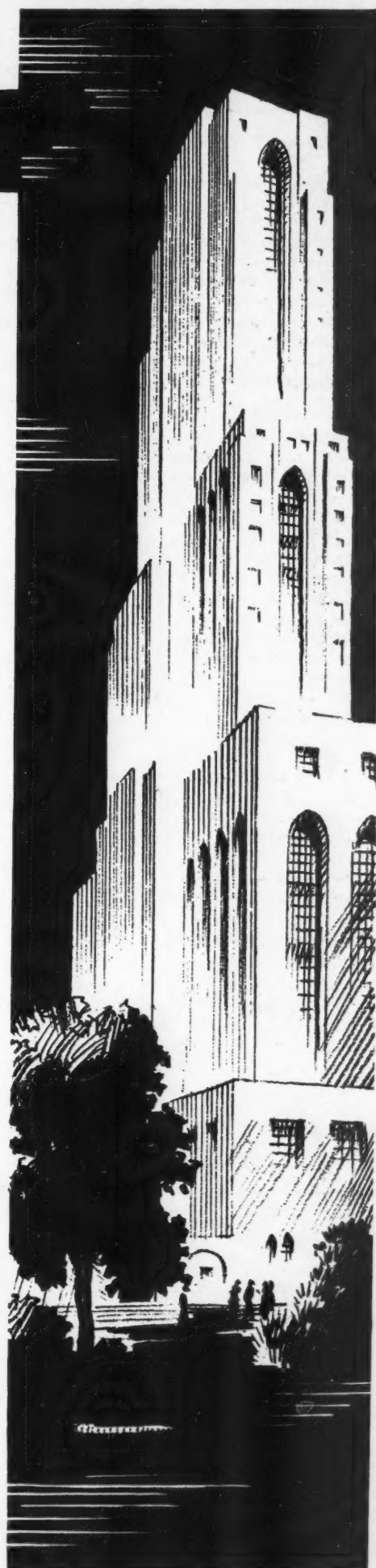
Modern Doctors and Nurses demand the best in professional apparel. This accounts for the overwhelming preference shown everywhere for Angelica Uniforms, for 59 years the standard of excellence in quality, style and service. You are urged to send for the Angelica Brochure of Professional Apparel. The coupon below is for your convenience...



St. Louis, Mo., . . . 1405 Olive Street Chicago, Ill., 175 N. Michigan Ave., Dept. MH
New York, N. Y., 104 W. 48th St., Dept. 5 Los Angeles, Calif., 1101 S. Main St., Dept. MH

ANGELICA JACKET CO., Please send me without obligation, your brochure of hospital and nurses' apparel.

Name.....
Institution.....
Address.....



Executives of Group Service Plans Meet in Chicago; Advisory Committee Formed

A clear-cut approval of the non-profit type of group hospitalization plan with free choice by subscribers among all institutions of standing in each community was voiced by executives of these plans meeting in Chicago on February 15 and 16. They agreed that no private investors should advance money in the capacity of stockholders or owners and that original working capital should be repayable only out of earned premiums over and above operating expenses, payments to participating hospitals and legal reserves.

Furthermore they approved of effective control by the state department of insurance or other appropriate regulatory body of the rates of subscription and payment to hospitals. They condemned the idea of employing representatives of the plan on a commission basis. Scope of benefits, they agreed, should be as inclusive as practicable from the administrative and financial points of view.

Whether group hospitalization should be considered a plan for benefiting hospitals, a consumers' cooperative or should occupy a middle position responsible to the general public as a whole was one of the major but unanswered questions discussed. However, there was general agreement that participating hospitals should assume financial responsibility for the plan.

Bryce Twitty, Baylor University Hospital, Dallas, Tex., was elected chairman of the group for the meeting and E. A. Van Steenwyk of St. Paul, Minn., secretary. An advisory committee to the committee on hospital service was set up and includes Frank Van Dyk, New York City; E. J. Henryson, Washington, D. C.; Perry Addleman, Chicago;

Felix A. Grisette, Chapel Hill, N. C.; John A. McNamara, Cleveland; Mr. Twitty and Mr. Van Steenwyk. This committee was also constituted as the committee on statistics of group hospitalization. A nominating committee was appointed consisting of Ray D. MacCarty, St. Louis; R. D. Brisbane, Sacramento, and J. D. Coleman, Essex County, N. J.

All plans are to be asked to report the following data to the committee on hospital service at quarterly intervals: (1) number of member months, (2) number of persons hospitalized, (3) number of days of hospital care furnished. These facts are to be given separately for subscribers and for dependents and separately for the two sexes.

Considerable difference of opinion was expressed over the proper methods of enrolling subscribers. A few plans use solicitors on commission but this procedure was generally disapproved. Most plans use representatives on salary.

C. Rufus Rorem, executive director of the committee on hospital service, reported that hospital service plans are now paying the bills of 2,500 patients a day and during 1936 the total number of persons enrolled in local plans doubled. He listed thirty-three nonprofit free choice plans and twenty-one single hospital plans now in operation.

During the meeting Doctor Rorem and Dr. Basil C. MacLean, chairman of the committee on hospital service, met with representatives of radiologic societies to discuss the relation of radiologists to hospital service plans. It is expected that radiologists will have a better understanding of service plans and will abate opposition.

superintendent of Nebraska Methodist Hospital, Omaha, first circularized a small group of hospital administrators, asking them to enumerate their outstanding problems. Out of eleven answers received, eight placed nursing problems and the skyrocketing operating costs as first in importance. Four letters mentioned care of indigents and automobile accident cases; three the social security act, and one letter each mentioned rehabilitation, accounting, the x-ray department, the eight-hour day, various types of therapy and taxes.

Prophesying that in fifteen or twenty years junior college education will be as much a requirement for entrance to nursing schools as high

school graduation is at the present time, Edna S. Newman, who on February 28 left Chicago's Cook County Hospital to become director of nurses at St. Luke's Hospital, Cleveland, reviewed the problem of schools of nursing and the plans of the League of Nursing Education. Miss Newman, who blames a portion of the present shortage of nurses upon the increased demand for public health nurses, believes that nursing schools will have to recognize the importance of this field and train their nurses to work for the community and not merely as institutional nurses or private duty nurses.

The work of a mountain hospital was described by the Rev. Thomas B. Ashley, who was responsible for the founding of the Methodist Hospital at Pikeville, Ky., an institution which serves an eighty-mile radius, its patients being transported to the hospital on rock sled, wagon, automobile and train. The hospital has spent more than \$750,000 on patient care over a twelve-year period, uses graduate nurses entirely and averages about 200 patients each month.

The convention elected the Rev. Harry E. Hess, superintendent of the Nebraska Methodist Hospital, Omaha, president, and reelected Guy M. Hanner, superintendent of Beth-El Hospital, Colorado Springs, Colo., secretary.

Hospital Group Listens to Doctors' Viewpoint

Members of the Medical Society of New Jersey were the guests, recently, of the New Jersey Hospital Association at a conference on mutual problems held in Newark.

The doctors' views of hospitalization insurance were explained by Dr. Edgar A. Ill, president, Essex County Medical Society, and the medical-dental bureau and hospitalization insurance were discussed by Dr. Harry A. Satchwell, medical education committee, New Jersey Medical Society. These subjects were then both discussed under the leadership of J. Douglas Colman, executive secretary of the Hospital Council of Essex County.

Nurse education and training for the care of the sick was the subject presented by Dr. A. Charles Zehnder, committee on nursing, Medical Society of New Jersey, and discussed by Margaret Ashmun, director of Nursing, Orange Memorial Hospital, Orange, and Edgar C. Hayhow, superintendent, Paterson General Hospital, Paterson. Social security and hospital relationships were analyzed by Thomas K. Lewis, medical practice committee of the medical society, and discussed by F. Stanley Howe, director of Orange Memorial Hospital.

Cancel Cincinnati Plans; Methodists Go to Chicago

Forced by the flood waters that poured into Cincinnati to change hurriedly their meeting plans and convene in Chicago, the delegates to the nineteenth annual convention of the National Association of Hospitals, Homes and Deaconesses of the Methodist Episcopal Church listened almost unbelievably to the graphic description of flood and fire portrayed for them by Dr. J. A. Diekmann, superintendent of Bethesda Hospital, Cincinnati, as he welcomed them at the opening session on February 17.

In compiling his paper on administrative problems, Dr. Harry E. Hess,



M. BURNEICE LARSON
DIRECTOR.

*... to tug at the traces . . . to drink deep of life
years and years before you are old.*

They tell that all the things we long to do, all the things we long to have, and all the things we long to be, come surest to those of us who tug at the traces.

Then why not tug?

Why not find the job that'd *make* you tug? Why not find the job that'd give you shiny eyes, a set and pointed chin, a *lilt* to your voice, a toss to your head?

Don't turn away. Honest, we're talking to you. It makes *no* difference who you are nor what your work, if you aren't tugging at your traces you aren't doing your work as it can be done.

If you aren't doing it as it can be done you

are in a rut or you soon will be; you are doing work that should be done by someone who'd *love* it, *live* it, *lick* it . . . and *somewhere* there's a job like that for you.

Find it. Be courageous. Live *all* of your life; don't depend upon tomorrow. Do *now* the things that thrill, the things you'd *love* to do. Get the job that'd call *all* of your energies, all of your enthusiasm and fight, and *be* the person you dream you'll be.

We will help. Ask us. Tell us all about yourself, what you are, what you'd like to be. *That* is our great business: to find the job for you you'd love; to find for hospitals the *finest* people, the *smartest* in the land.

55 E. Washington St. ★ *The* MEDICAL BUREAU ★ CHICAGO, ILLINOIS



Medical Center for Beverly Hills

The above medical center, which is under construction at Beverly Hills, Calif., is to be as modern in equipment as it is in design. Three stories high, the entire building will be air conditioned and equipped with automatic fire doors to enclose all stairways in an emergency. Light courts have been completely eliminated, for all rooms have outside windows. A feature of the building will be the roof garden for sun bathing, with its auxiliary lounge and shower and dressing room facilities. Harry E. Werner, of Beverly Hills, is the architect.

To Pay Doctors

Remuneration has been voted to the 2,000 physicians of Buenos Aires, who served without recompense in the public hospitals. A bill has been approved by the national congress by which an allowance equivalent to about \$2,500,000 in American money will be given every year to pay physicians in public hospitals.

Asks Voluntary Hospitals for Beds During Epidemics

Proposing that voluntary hospitals postpone nonemergency surgical cases in the midst of epidemics, Dr. S. S. Goldwater, commissioner of hospitals, asked that all New York City hospitals enter into a gentlemen's agreement that would provide more facilities during disease epidemics.

It would be folly, according to the commissioner to try to provide sufficient hospitals to meet the peak needs of serious epidemics, such as the influenza and pneumonia epidemic through which the city is passing. He proposes to meet such needs with present hospital facilities and cooperation.

"The voluntary hospitals should agree in epidemics for postponement of nonemergency surgical cases to meet the demands of an epidemic. You

will find that 50 per cent of their work is surgical and a large proportion of it is optional, not emergency surgery." Such an agreement would provide from 3,000 to 5,000 additional beds in times of emergency and stress.

Lights Out, but Party for Children Continues

The unlimited scope of an emergency was amply demonstrated at Western Toronto Hospital, Toronto, Ont., recently. This new, 500-bed institution is equipped with emergency lighting for its operating rooms, but no operations were in progress when a main transformer blew out, plunging the hospital into darkness and halting all power for fifty minutes.

Instead, up in the solarium on the fourteenth floor, a children's party was in progress. In an elevator, stopped between floors, were thirteen children on their way to the party. At the quick instigation of the operator, these children began to sing in the dark. Members of the hospital staff quickly located the sound of the voices, and the children were removed from the elevator. The party continued with flashlights and candles.

Fire at Philadelphia Hospital

Seventy-eight patients were carried or helped to safety when fire broke out on the fourth floor of the D. Hayes Agnew wing of the Graduate Hospital of the University of Pennsylvania, Philadelphia, among them twenty-five patients from the children's orthopedic wards. Eighteen minutes after Intern Fred A. Rose discovered the flames and notified the telephone operator every patient had been removed to safety, and twenty minutes later every movable object of value had been carried out while the fire department's hose played on the roof of the building. The fourth floor, where nineteen interns had their living quarters, was almost entirely destroyed.

Houston Dietitians Try Diet Standardization

A standardization of hospital diets is the goal of the South Texas Dietetic Association, which is carrying on an experiment with the Methodist, Hermann and Memorial Hospitals in Houston.

These three Houston hospitals are using the same routine house diets, in an attempt to discover whether or not such a plan would simplify matters for doctors and special nurses as well as dietitians.

The routine diets adopted by this group, which were published by the *Texas State Hospital Journal* are the following:

Surgical Liquid—tea, without sugar, and broth.

Medical Liquid—tea, coffee, clear water ices, plain gelatin, strained fruit juices, milk (as ordered), thin gruels and strained vegetable soup.

Selected Soft—medical liquid plus strained cream soups, soft eggs, cooked cereals, melba toast, milk and milk drinks, custards, junket, plain ice cream, fruit whips and cornstarch pudding.

Soft—selected soft, plus broiled fish, minced chicken, baked and mashed potatoes, baked macaroni, puréed vegetables, toast, cottage cheese, puréed stewed fruits, orange and grapefruit sections, canned pears and peaches, dry cereals without bran, toast and vanilla wafers.

General—includes all foods given to a well person except heavy pastries, fried foods, cabbage, cucumbers, sweet potatoes, dried beans and other foods hard to digest.

Meat Free General—general diet with crisp bacon, chicken, fish and all soups but no red meats.

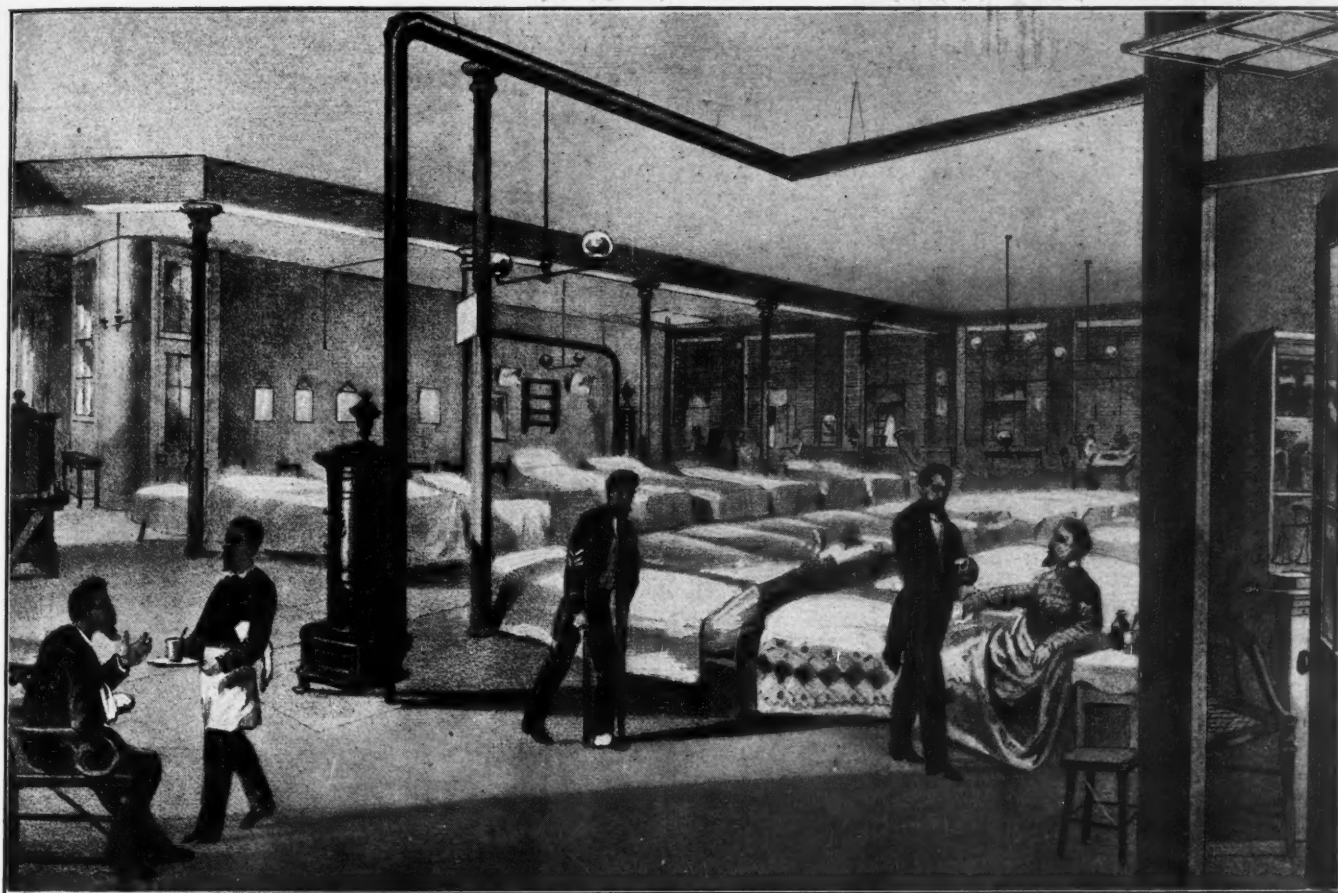
Would Regulate Diabetes Clinics

Diabetic patients attending clinics in New York City will receive better medical, surgical and social service care if the committee on diabetes clinics of the New York Diabetes Association achieves its objectives. A move in this direction will be made at a public meeting, scheduled for the evening of March 5 at Cornell University Medical College, when a report on suggested minimum requirements and a scientific paper will be presented.

May Live Off Grounds

A plan that will permit resident employees of state hospitals, from whose salaries has been deducted \$35 a month for board, lodging and laundry, to live off the grounds and receive full salaries, has been approved by the governor, according to Harry Lutgens, state director of institutions of California.

During The Uncertain 'Sixties Hospitals Depended on Webb's Alcohol



SOLDIERS DEPOT HOSPITAL IN 1864

T. F. Healy Collection

"It has not its equal in any other State in the Union." This was said about the Soldiers Depot Hospital, located at 50-52 Howard Street, New York, in 1864. Shown at the right of the picture is the dispensary from which were issued many preparations made with alcohol, for the healing and comfort of the sick.

GONE is the hospital of the eighteen sixties. Crude coal stoves, flickering gas lamps—so many of the things that were uncertain—have given way to an entirely new and complex institution: the modern hospital, alert to the times and stronger than ever before.

In the space of three generations the science of caring for the sick has changed to an incredible degree. But as less useful materials have vanished or have been replaced, alcohol has steadily become more indispensable to hospitals.

Those who enter a hospital are scarcely conscious of their dependence on alcohol. Yet it is everywhere—in the pharmacy, operating room, maternity ward and laboratory. It has no substitute.

When hospitals use pure alcohol, they turn to Webb's and U. S. I.—U. S. P.—the leading brands. As far back as 1835, Webb's was their standard. Since Webb became a part of the U. S. Industrial

Alcohol Co. in 1915, they place equal confidence in both products. To insure highest quality and uniformity insist on U. S. I. products.

A folder giving the history and uses of industrial alcohol in hospitals, science and industry, and a summary of government regulations has been prepared by the U. S. Industrial Alcohol Co. Write for your copy.



ALCOHOL

U. S. I. - U. S. P. WEBB'S

ONE HUNDRED YEARS OF SERVICE TO HOSPITALS

U. S. INDUSTRIAL ALCOHOL CO. 60 EAST 42ND STREET, NEW YORK
BRANCHES IN ALL PRINCIPAL CITIES

NAMES IN THE NEWS...

CHARLES E. FINDLAY, superintendent of Butterworth Hospital, Grand Rapids, Mich., resigned recently, and on March 1 assumed the duties of superintendent at Wyandotte General Hospital, Wyandotte, Mich.

MAURICE DUBIN, director of Mount Sinai Hospital, Chicago, for the last seven years, has resigned from that position. Mr. Dubin plans a vacation in the South, and will return to Chicago in time for the Tri-State Hospital Assembly in May.

The REV. THOMAS A. HYDE, superintendent of Christ Hospital, Jersey City, N. J., died at the age of fifty-six after a brief illness. Mr. Hyde had been superintendent of the hospital since 1918 and was a former president of the American Protestant Hospital Association.

DR. FREDERIC A. WASHBURN, commissioner of hospitals for Boston, has been named superintendent of Cambridge Hospital, Cambridge, Mass., effective March 1. Doctor Washburn will succeed JOSEPHINE E. THURLOW, who for nineteen years has headed the institution so efficiently and faithfully that the trustees of the hospital voted her a retirement annuity. Miss Thurlow plans to be on call in an advisory capacity regarding hospital construction, remodeling and administration in the hospital or nursing school.

SYDNEY J. BARNES, superintendent of United Hospital, Port Chester, N. Y., for nearly eight years, has announced his resignation. Under Mr. Barnes' administration the bed capacity of the hospital was increased from 100 to 200 beds.

HARRY N. GOTTLIEB, lawyer, and a member of the board of the Jewish Charities of Chicago, has been elected president of Michael Reese Hospital succeeding the late ALFRED C. MEYER.

DR. SAMUEL W. HAMILTON, assistant medical director of New York Hospital, New York City, has resigned to become director of a hospital survey of the National Committee for Mental Hygiene.

LAURA R. LOGAN, formerly director of nursing service at Cook County Hospital, Chicago, has been appointed principal of the nursing school and director of nursing service at Flower-Fifth Avenue Hospital, New York City.

GRACIA LOSEY PHELPS is the new superintendent of the Thorn Memorial Hospital, Hudson, Mich.

LYDIA M. HAASE, superintendent of T. J. Samson Community Hospital, Glasgow, Ky., resigned recently. She has been succeeded by MARION V. BLACK.

J. MARIE MELGAARD, who resigned

last April from her position at Mount Sinai Hospital, Philadelphia, has been appointed head of the dietary department at State University and Crippled Children's Hospitals, Oklahoma City, Okla.

ANTON C. NEGRI, Chicago business man, has been placed in charge of Cook County Hospital to institute a program of efficiency and economy. MICHAEL ZIMMER, warden of the hospital, will retain the position he has held for many years, but will be under Mr. Negri's authority. Mr. Negri was voted a salary of \$25,000, out of which he must hire his own assistants, although \$5,000 was provided for clerical help.

DR. F. L. PASCHAL has been named to succeed DR. J. B. COPELAND as superintendent of the Robert B. Green Memorial Hospital, San Antonio, Tex.

DOROTHY ELIZABETH SMITH has been appointed superintendent of the newly opened Municipal Hospital of the City of Staples, Staples, Minn.

JOHN MCKINLAY was recently elected president of the board of managers of Presbyterian Hospital, Chicago, succeeding ALFRED T. CARTON, president for the past seven years, who asked to be relieved of his duties.

CHARLOTTE JAMES GARRISON has resigned from the superintendency of the Virginia Municipal Hospital, Virginia, Minn.

The REV. L. B. BENSON, superintendent of Bethesda Hospital, St. Paul, has been chosen president of the Minnesota Hospital Service Association to succeed JOSEPH G. NORBY, superintendent of Fairview Hospital, Minneapolis, retiring president.

DR. CURTIS H. LOHR has been appointed superintendent of St. Louis County Hospital, Clayton, Mo., to succeed DR. EDWIN L. SHEAHAN.

BESSIE DIEFENDERFER, superintendent of King's Daughters' Hospital, Martinsburg, W. Va., for nine years, recently announced her resignation.

DR. LORNE W. YULE, superintendent of the Institution for Feeble-Minded, Apple Creek, Ohio, has resigned because of ill health.

LAURA E. COLEMAN, superintendent of Milton Hospital and Convalescent Home, Milton, Mass., since 1923, died recently, following an attack of pneumonia.

VAN C. ADAMS has been appointed superintendent of Springfield City Hospital, Springfield, Ohio.

J. F. HAMNER has been named superintendent of Little Rock City Hospital, Little Rock, Ark., to fill the vacancy made by the resignation of H. K. FORD.

FRANK SCHMIDT, superintendent of Franklin Hospital, San Francisco, has been elected president of the San Francisco Hospital Conference.

The REV. ROBERT WARNER, superintendent of Deaconess Hospital, Spokane, Wash., for fifteen years, died in the hospital following an illness of four months.

DR. WILLIAM E. HUDSON has been named superintendent of the new tuberculosis hospital at New Philadelphia, Ohio.

ALMA C. OLSON has been appointed superintendent of nurses at Luther Hospital, Watertown, S. D., and DOROTHY HALVORSEN has been appointed dietitian.

DR. R. J. MASSELINK is the new superintendent at Neurological Institute, New York City.

DR. ARNOLD A. KARAN, assistant director of the Jewish Hospital of Brooklyn, Brooklyn, N. Y., resigned recently to accept the superintendency of the Workmen's Circle Sanatorium, Liberty, N. Y. He will be succeeded at Brooklyn by DR. JACOB PRAGER.

RUTH ADIE has resigned as superintendent of Malden Hospital, Malden, Mass. Until her successor is appointed the hospital will be managed by PAUL D. TURNER, chairman of the trustees and FLORENCE M. BERTONI, superintendent of nurses.

CHARLOTTE W. AGER, superintendent of Columbia Hospital, Columbia, Pa., has been appointed superintendent of Armstrong County Hospital, Kitanning, Pa. ELIZABETH GUTHRIE will remain at the hospital as superintendent of nurses.

MOTHER MARY AMBROSE, formerly superintendent of the Ohio Valley General Hospital, McKees Rocks, Pa., has been named superintendent of the new Mother Francis Hospital at Tyler, Tex. This hospital was built by Tyler as a city hospital and leased to the Sisters of the Family of Nazareth who will operate the institution.

FANNIE R. FORTH, assistant superintendent of Deaconess Hospital, Spokane, Wash., has been named superintendent to succeed the late DR. ROBERT WARNER.

Nurses Escape in Leonard Fire

Seven nurses and a housekeeper narrowly escaped death when the Leonard Hospital nurses' home, Troy, N. Y., was destroyed by flames. One of the nurses was awakened by a smell of smoke. She quickly warned the others in the home and they groped their way down smoke filled stairs to the rear entrance and outside. Little in the building was saved, those nurses who had pulled coats over their nightgowns salvaged their coats, but that was all. The home, which was located a block from the hospital, has been owned by the institution for nine years. The fire, it was believed, started in one of the cellars.

Holding your own as a hospital

—There is nothing sadder than the cases of hospitals whose efforts to serve their communities efficiently have been paralyzed through lack of funds.

WARD, WELLS & DRESHMAN have previously solved similar problems through intensive fund-raising campaigns in behalf of hospitals that have sought their aid in London, Paris, Dublin, Toronto—New York, Chicago, Philadelphia, Boston, and hundreds of communities throughout this country. The cost is moderate; the results are, in many instances, amazing.

Back of WARD, WELLS & DRESHMAN is a Quarter Century of Experience in Aiding Hospitals. During these years we have organized and directed campaigns producing more than a billion dollars for hundreds of hospitals, homes, orphanages, and various other philanthropic, educational and religious enterprises.

We will be glad to cooperate with you in your efforts to increase the effectiveness of your hospital to your community.

CONSULTATION WITHOUT COST OR OBLIGATION

Ward, Wells & Dreshman

Fifty-First Floor - R. C. A. Building

ROCKEFELLER CENTER

NEW YORK CITY



*Milwaukee County General
Hospital, Wauwatosa,
Wisconsin*

A Major Operating Expense . . . *minimized*

Modern hospital management is quick to appreciate the sound business value of Differential Heating. It holds the heating cost in any single structure or in groups of buildings to absolute minimum, while at the same time providing wanted temperatures—automatically—in constant comfortable adequacy.

Hospitals, too, are quick to evaluate the health significance of a heating system that employs the flexibility of sub-atmospheric steam, eliminating over-heating with its "scorched" air, need for window cooling and frequent valve adjustment.

Patients in the Milwaukee County General Hospital at Wauwatosa, Wisconsin, are treated in healthful comfort regardless of weather. The management reports heating expense held to a minimum far lower than could be attained in any ordinary system.

Sub-atmospheric Steam Heating is described in Bulletin 125H.

May we send it?

C. A. DUNHAM COMPANY
450 EAST OHIO STREET, CHICAGO

Ordinary systems may be changed over to Differential Heating on the sound assumption that fuel savings will liquidate installation costs in as short a time as four heating seasons—sometimes less.

DUNHAM
Differential
HEATING

READER OPINION

Obviously Valuable

Sirs:

Reference letter under caption "International Exchange Proposed" in your issue of November, 1936. I think Cederström's suggestion excellent and know from experience as a practicing hospital architect that such information if obtainable from a central record office would be invaluable.

The health of the people in general is today looked upon as a public responsibility. Therefore governments, federal, state or provincial, should have data as outlined by Cederström and be available to those interested in hospitalization to the end of either improving hospital buildings which do not conform with current medical technique or as a guidance based upon recent experiences for new hospitals which trustees or others may have under consideration. The value of Cederström's policy is so obvious that it is almost inconceivable it had not been thought of or practiced before today.

B. EVAN PARRY.

Toronto, Ont.

Space Is Limited

Sirs:

In looking over the January issue of *The Modern Hospital*, I was delighted with the articles by the presidents of the different national associations setting forth their tasks for 1937. I feel however, that your representation of the different organizations was not quite complete—you left out at least a spoke of the wheel when you forgot to invite the Association of Record Librarians of North America to join this group.

I believe it is an established fact that the medical records department is considered one of the most important departments in a hospital, and is one of the main requirements in the standardization of a hospital and recognition by the American College of Surgeons. Anyhow, we felt slighted!

Irene M. Connors,
President.

Association of Record Librarians
of North America.

Lack of space was the only reason for omitting a statement on the 1937 objectives of the record librarians, as well as those of the social workers and the accountants, all of whom perform important hospital functions.—Ed.

A Correction

Sirs:

In the February issue of *The Modern Hospital* you have a news item with reference to the death of George Wilson on page 118. In connection with this item you also state that J. L. Renfer is acting superintendent.

I shall be glad to have you make a correction in this last part inasmuch as I am the acting superintendent and the correct spelling of my name is "W. L. Benfer."

W. L. Benfer,
Acting Superintendent.

Toledo Hospital, Toledo, Ohio.

Misrepresentation?

Sirs:

The Illinois State Nurses Association wishes to announce to the public that it is in no way connected with a benefit ticket sale conducted each spring for needy, sick or destitute nurses, nor does it know of any nurses receiving such aid.

The Illinois State Nurses Association has been incorporated in this state for thirty-six years. It represents 99½ per cent of the nursing schools of this state. It is the only official nurses' association in Illinois recognized by the United States government.

EDNA S. NEWMAN,
President.

First District,
Illinois State Nurses Association.

Minnesota Offers Course for Hospital Librarians

A course in hospital librarianship, thought to be the first ever offered, will be given at the University of Minnesota during the spring quarter, from March 30 to June 12, with the co-operation of the Minnesota State Board of Control, which has jurisdiction over all hospitals supported by the state. Perrie Jones, librarian of the St. Paul Public Library and former institution librarian of the board of control will be in general charge of the course, assisted by a large group of medical and library experts in special fields.

The curriculum will consist of five courses: Organization and technical methods suitable for hospital libraries; criticism and discussion of reading suitable for varied types of patients, lectures and assigned problems; special problems of work with varied types of mental patients; reference books and technical methods for hospital staff, and a six-weeks' internship in an approved hospital.

Credit toward the degree of bachelor of science will be given properly qualified students. Those who are not eligible for the degree will be given a certificate for completion of the entire course, including the six weeks' internship.

\$6,472,500 for Indigents

Nearly six and a half million dollars will be allotted to privately managed hospitals in New York City by the Department of Hospitals for the care of indigent sick this coming year. Private general hospitals will receive \$3,367,000, an increase of \$65,000 over that awarded last year; tuberculosis hospitals will get \$1,248,000, an increase of \$12,000; chronic homes have been allotted \$863,500, an increase of \$53,500, and convalescent homes, \$295,000, an increase of \$12,500. Cancer homes and orthopedic homes will receive lesser amounts this year, only \$141,000 going to the care of cancer indigents as against \$144,000 last year, and \$558,000 to orthopedic homes, a decrease of \$11,000.

Summer Courses for Nurses

Courses in ward management, nursing supervision in hospitals and schools of nursing, and nursing school curriculum will be offered by the College of Saint Terese, Winona, Minn., for graduate nurses at its six weeks' summer session.

Coming Meetings

Tri-State Hospital Association (Georgia, Florida, Alabama).
Next meeting, Atlanta, April 8-10.

Western Hospital Association.
Next meeting, Los Angeles, April 12-16.

Ohio Hospital Association.
Next meeting, Columbus, April 13-15.

Michigan Hospital Association.
Next meeting, Ann Arbor, April 15-16.

Tri-State Conference (North Carolina, South Carolina and Virginia).
Next meeting, Raleigh, April 22-24.

Texas Hospital Association.
Next meeting, Lubbock, April 23-24.

Iowa Hospital Association.
Next meeting, Dubuque, April 26-28.

Tri-State Hospital Association (Indiana, Illinois, Wisconsin).
Next meeting, Chicago, May 5-7.

National League of Nursing Education.
Next meeting, Boston, May 9-14.

Mississippi Hospital Association.
Next meeting, Meridian, May 10.

Minnesota Hospital Association.
Next meeting, Rochester, May 13-15.

National Executive Housekeepers' Association.
Next meeting, Cleveland, May 20-22.

Hospital Association of New York State.
Next meeting, New York City, May 20-22.

American Association of Medical Social Workers in conjunction with National Conference of Social Work.
Next meeting, Indianapolis, May 23-29.

New Jersey Hospital Association.
Next meeting, Atlantic City, May 27-29.

Hospital Association of Rhode Island.
Next meeting, Wakefield, June.

Hospital Association of Pennsylvania.
Next meeting, Buck Hill Falls, June 2-4.

Advisory Board for Medical Specialties.
Next meeting, Atlantic City, June 6.

American Medical Association.
Next meeting, Atlantic City, June 7-11.

Mid-West Hospital Association.
Next meeting, Colorado Springs, Co'o., June 10-11.

Catholic Hospital Association.
Next meeting, Chicago, June 14-17.

Manitoba Hospital Association.
Next meeting, Brandon, June 24-25.

International Hospital Association.
Next meeting, Paris, July 6-11.

Hospital Association of Nova Scotia and Prince Edward Island.
Next meeting, Sydney, N. S., July 6-7.

National Hospital Association.
Next meeting, St. Louis, Aug. 15-17.

American College of Hospital Administrators.
Next meeting, Atlantic City, Sept. 13-17.

American Hospital Association.
Next meeting, Atlantic City, Sept. 13-18.

American Protestant Hospital Association.
Next meeting, Atlantic City, Sept. 13-17.

Children's Hospital Association.
Next meeting, Atlantic City, Sept. 13-17.

Traveling Dentistry

A traveling dental unit is shortly to be placed in the U. S. Coast Guard Service by the hospital division of the Public Health Service. Housed in a trailer, the wandering office is equipped with x-ray, laboratory, sterilizer, patient's chair and all the necessary electrical equipment. Electricity will be obtained by plugging into an outside line. The unit will be used to take dental care to inaccessible coast guard stations.

FRY YOUR WAY TO Fame



New Edison Counter Fry Kettles Turn Out the Kind of Fried Food That Customers Talk About

NOW you can turn out the kind of delicious fried foods that build a fine reputation. The remarkably sensitive Temperature Control on Edison's new Counter Fry Kettle, and on the new Commercial Fry Kettle (KA15), enables you to produce the quality fried foods that bring customers back again and again.

Edison's exclusive new Temperature Control is super-sensitive to temperature changes. It is quick and positive in action—constructed to give the longest life under the severe operating conditions



Amazing New Temperature Control Eliminates Cause of Frying Failures in All Edison Kettles

of day-and-night commercial service. A temperature setting dial on the outside of the fry kettle, reading in actual degrees, gives precision control over all frying operations from 250° F. to 400° F.

Get the facts. See this new Edison electric equipment. Learn how it can help you to fry your way to fame—and profits. Write today for descriptive folder. Consult your Edison specialist.

EDISON GENERAL ELECTRIC APPLIANCE CO., Inc.

5662 West Taylor Street, Chicago, Illinois

World's Oldest and Largest Makers of Electrical Cooking Equipment

The coupon at the right will bring you a descriptive folder about the Edison Counter Fry Kettle. Fill in and mail.

EDISON

Edison General Electric Appliance Co., Inc., 5662 W. Taylor Street, Chicago
Please send me the NEWS FLASH on deep fat frying.

Name _____

Address _____

City _____ State _____

LITERATURE in ABSTRACT • • •

Conducted by E. M. Bluestone, M.D. and Joe R. Clemmons, M.D.

Air Conditioning Dental Offices

A survey was made by the Oral Hygiene Publications covering 230 dentists who installed air conditioning units in their offices.* Of this number, 40 per cent replied. The majority of these had had the equipment less than two years.

Eighty-one per cent reported that they used air conditioning only in summer. Answering a question concerning an increase in practice during the summer months due to the air conditioning, a few felt there was some increase, but for the most part this question was answered only indefinitely if at all. As far as increasing their practice was concerned, 53½ per cent felt that it had and the remainder gave indefinite answers. All the dentists were quite positive that air conditioning decreased the strain of operating work on their part and all affirmed the reaction on the part of the patients was most favorable.

Eighty-two per cent gave affirmative answers, one a negative answer and the remainder were indefinite as to whether, solely because of improved operating conditions, they felt it a good investment. Some effort was made to determine the cost of operating the unit, but the results were not very satisfactory. Monthly costs of the few who had figures were from \$2 to \$8.

*Air Conditioning in Hospitals and Dental Offices Surveyed, Heat. and Ventil., 33: 27 (Dec.) 1936. Abstracted by Margaret G. Reitz.

Master Control Board Saves Heating Costs

How much fuel can be saved after the equipment is in firstclass condition and the engineer has obtained the maximum efficiency from what he has with which to generate steam?*

The average individual expects to get a return on his investment for improvements in from three to five years, regardless of the cost. The following explains how a control suitable for any building under all conditions can do this in a much shorter period and give the operator what he wants when he wants it.

The operation of a master control board in one building has resulted in an amazing fuel saving.

The low pressure headers throughout the entire heating system are divided into sections. High pressure steam lines have been installed to deliver steam where the headers are

split. More than fourteen additional pressure reducing valves were installed for both up-feed and down-feed systems. This installation gives the building control of steam quality for all sections and exposures of the structure.

The steam risers were then equipped with air operated valves. Installed on each air valve is a switch which electrically controls the admission of air from an air header to the control valves.

Electric wires were then taken from each riser valve and connected to the master control board for either manual or automatic operation. The switches on the master control panel are grouped for cycling in zones and sections. An electric clock is installed with controls or fingers to cycle the risers in sequence. There are three cycle controls. Each cycle is switched on to maintain a constant load factor and temperature, according to weather conditions during the day, night, Sundays and holidays.

A temperature recording instrument is mounted on the control board, which has stations installed throughout the building and one station outdoors. The cycles are operated according to the temperature recording instrument. Any temperature range may be maintained in the building by the operation of the automatic cycling movement or clock control. One or more steam risers may be left on or off without interfering with the control balance. Individual steam risers may be left on for a tenant working overtime. In fact, any condition desired may be obtained.

The building may be heated 80 per cent of the entire heating season with a smaller boiler load and a balanced boiler load, because of the fact that zones and sections are balanced when connected.

This system, although it may seem more costly than older steam controls, is actually not so, when the great flexibility in which it can be operated is taken into consideration, plus steam or fuel savings.

*Lewis, Alexander J.: Heat Control Systems Assure Savings, Skyscraper Management, Oct., 1936, page 10. Abstracted by Louise Large.

Controlling Tuberculosis

An estimate of the effectiveness of public health procedures is especially important in tuberculosis because of changing needs in any given locality.* The criteria of efficiency are to define the objections precisely and to test

the accomplishment of the objectives by comparison with results of other procedures having the same objectives or by comparison with suitable controls.

Case finding in tuberculosis may be carried on by reporting by private physicians; diagnostic clinic examination of referred suspects and contacts, and screening out of cases from large numbers of school children by tuberculin tests and x-rays. Each of these control techniques finds different application and success in various communities. Thus, in a four-year period in Cattaraugus County, the results of a comparison of diagnostic clinics for referred cases with extensive surveys of entire school populations clearly indicated the relative waste of expenditures on the school groups.

The resultant concentration on the diagnostic clinics and regular review of only high school seniors led to a better utilization of resources available for this locality. A study of Bellevue-Yorkville Health Center in New York City indicated that a more careful selection of cases referred to the diagnostic clinic would eliminate 40 per cent of the examinations for tuberculosis. Cost analysis studies in New Haven indicated definitely that families in which the index case is a positive reactor to tuberculin do not warrant check-up for tuberculosis.

In a like manner a study of isolation of the positive sputum cases offers some evidence that early sanatorium care serves to diminish the spread of tuberculous infection in the community. It has also been determined that a more decided emphasis on early examination of contacts has led to more prompt and more extensive family check-up following discovery of the index case.

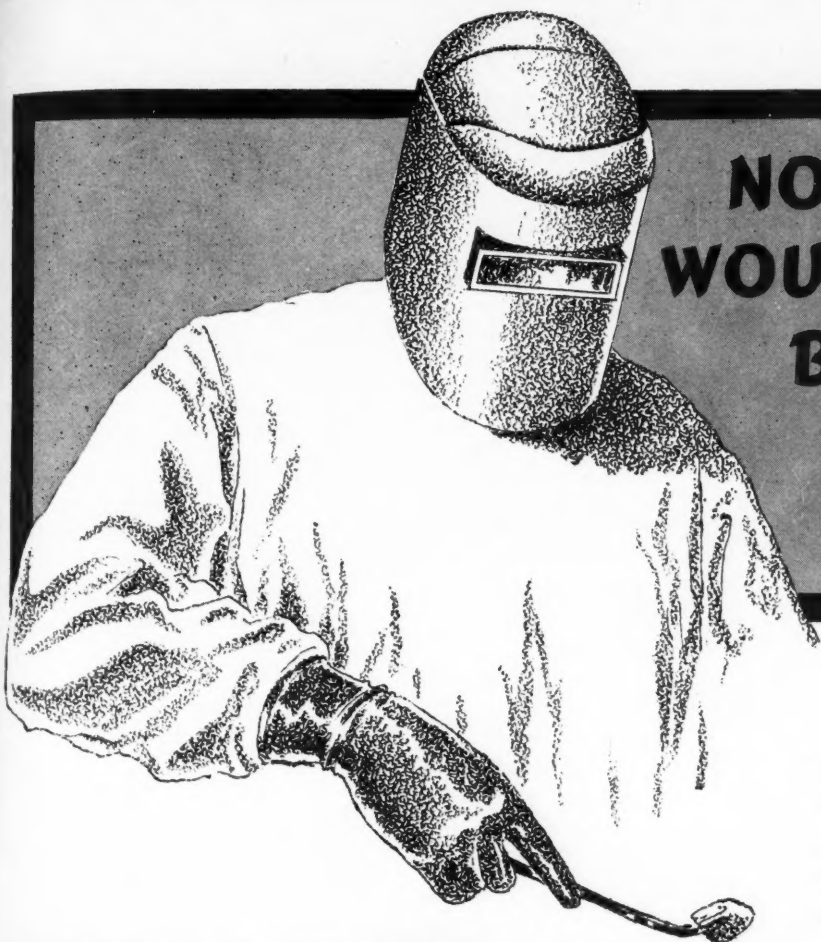
A careful test of specific administrative control procedures will produce a more flexible and more intelligent tuberculosis program.

*Downes, Jean: A Study of the Effectiveness of Certain Administrative Procedures in Tuberculosis Control, Milbank Memorial Fund Quarterly, Oct., 1936. Abstracted by J. Masur, M.D.

Problems in Blood Transfusion

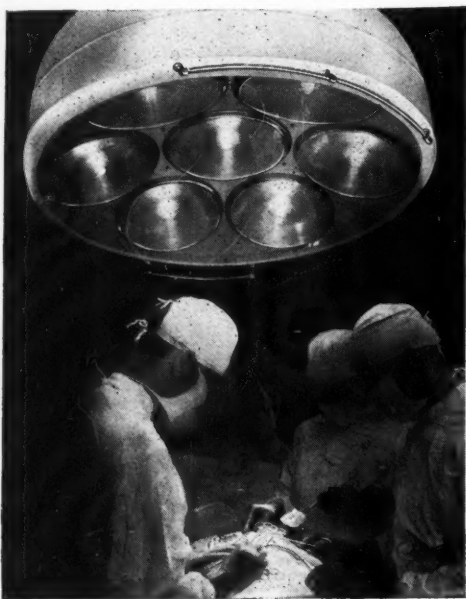
This paper, interestingly enough, is by a layman who is the founder of the British Red Cross Transfusion Service.* In contrast to most transfusion work in the United States, the British have a voluntary organization in which the donors offer their blood without fee. In London this service is efficiently organized. In the provinces there is considerable room for improvement. In some places there is still the tendency to use the group O as the universal donor, without attempting specific grouping and cross matching. Such a procedure is obsolete and dangerous.

The author raises several problems



NO SURGEON WOULD OPERATE BEHIND A WELDER'S MASK.

The blinding light of an electric arc requires protection of the eye because wonderful as the physical properties of the eye are, they do not provide for such extreme accommodations.



SAFETY TOO!

Castle Lights are dependable during the most critical operation because there are 7 bulbs in operation. Should one or even two bulbs fail during an operation, there would still be sufficient illumination.

The case of the surgeon is not so dissimilar after all. He must have about twenty times as much light *inside* an incision as on the pages of a book, and his eyes must be protected against glare from the even brighter area surrounding the incision. Yet any form of goggle would be an obviously absurd protection.

There must, therefore, be a scientific adaptation of the quality of the surgeon's light to what his eye requires. Castle Lights *are* scientifically designed to correctly meet the problem. They *do* give proper and sufficient illumination inside the deepest parts of the incision and they do not produce dazzling surface glare. Hence, they overcome the surgeon's most important optical problem... they allow him to see everything in its true color without eye strain and fatigue.

Let us explain the scientific reasons for surgeon's preference for Castle Lights. Write for book, "Effortless Vision".

WILMOT CASTLE COMPANY
1271 UNIVERSITY AVE. ROCHESTER, N. Y.

CASTLE *Lights*

SEE CATALOG, 15TH HOSPITAL YEARBOOK

for consideration and suggests calling a conference of all persons interested in blood transfusions to discuss them and arrive at the best procedures. Some of the questions raised are: (1) Is it proper to use whole or citrated blood? (2) The necessity of cross grouping a donor against the patient. (The author believes it is, judging from the number of incompatibles found in patients within the donors' group.) (3) The use of universal donors. (This should not be tolerated, he maintains. The London service is providing high titer serum for testing patient's group.)

(4) The use of professional *versus* voluntary donors. (The author is in favor of the voluntary donor. He feels that a better type of donor is obtained and greater freedom from disease. He even objects to any type of indirect payment to the voluntary donor.) (5) The frequency of service is a variable at present from as much as 400 c.c. per week to four times per year. What standard should be adopted? (6) The selection of apparatus involves a personal factor. Should it be left to the operator? (7) The use of direct *versus* indirect transfusion. (In London the former is almost obsolete. The author prefers indirect method for esthetic and practical reasons. He stresses as well the necessity of treating the donor with some consideration, such as sparing his veins, avoiding strong iodine as antiseptic and having competent operators.)

In London there are in use some 2,250 donors serving 200 hospitals. The establishment of separate donor lists by each hospital would be impractical. The use of a central bureau as a clearing house makes for efficiency and better supervision. The age of the donors varies from eighteen to sixty and includes both sexes. Records should be kept. The London Service has twenty thousand cases listed in its files.

*Oliver, P. L.: A Plea for a National Blood Transfusion Conference, *Brit. M. J.*, 2: 1032 (Nov. 21) 1936. Abstracted by Leonard Tarr, M.D.

Engineers and Medicine

A new field for air conditioning may result from investigations of its utility in the treatment of disease to be carried on by the American Society of Heating and Ventilating Engineers committee on research during the year 1937.* One phase of this study includes fever therapy. Working under the direction of physicians at Saint Francis Hospital, Pittsburgh, the society's research laboratory has already designed an air conditioned fever box with remarkable success.

In collaboration with the University of Pittsburgh medical school further research in similar fields will be carried on which will extend to scientists

in the West Side Hospital, part of the medical school of the University of Illinois at Chicago. Here study of the effects of temperatures and humidities on vital organs of the body is expected to result in setting up standards for air conditioning in hospitals. Also contemplated in Chicago is an inquiry into the use of specially conditioned air in the treatment of some forms of rheumatism and heart disease.

An attempt will be made to capture for interior air the imponderable quality which gives the invigorating effect of "fresh air." This property is thought to be due to negative electrification by the sun's or cosmic rays.

Other plans include studies of insulating materials, new methods of insulating concrete, proper installation of glass and commercial adaptation of the fact, recently discovered, that flat roofs may be insulated and preserved by flooding with pools of water. Also they hope to study heat generating, conducting and radiating equipment and finally the development of optimum design for air circulating ducts and small fittings as well as for filtering apparatus.

Some thirty projects are under investigation by the A. S. H. V. E., either on a continuing basis from previous years or in the nature of new projects.

*Beach, Brewster S.: Treatment of Disease by Air Conditioning to be Studied by the American Society of Heating and Ventilating Engineers in 1937 Research, Heat., Piping and Air Cond., 9: 40 (Jan.) 1937. Abstracted by Margaret G. Reitz.

Air Conditioned Hospital

A special meeting of the air conditioning bureau of Boston* marked the complete air conditioning of the Corey Hill Hospital, Brookline, Mass. Some sixty bedrooms for patients, two main operating rooms and their adjoining suites are equipped for year 'round conditioning by a system combining a lithium chloride dehumidifier and mechanical refrigeration.

Dr. Albert G. Young, medical director of the hospital and first speaker at the meeting, said that for years the medical profession has realized the importance of climatic environment on the patient's welfare but it has been only through recent developments in the field of engineering that it has been possible to control such conditions. Before installation he studied the problem from the standpoint of patients suffering from rheumatic diseases and by a survey of climatic conditions in those regions known to be most beneficial to rheumatic patients. From this study he learned that a relative humidity of 25 to 30 per cent is desirable.

Each room in the hospital is a unit in itself and temperature and humidity control can be adjusted to the needs of the patient. Of equal advantage is

having the air washed and filtered rendering it free of pollen and other particles responsible for asthma and hay fever. Less important but also to be considered is the patient's general comfort, giving normal physiologic processes better opportunity to function. It is also a decided benefit for physicians to be able to operate in a cool room.

Dr. William F. Peterson, professor of pathology at the University of Illinois Medical School, pointed out that during unstable barometric periods, colds, pneumonia and the death rate increase. The same is true of surgical mortality, high blood pressure cases and many diseases. By air conditioning, such as is installed in the Corey Hill Hospital, it is possible to shield patients from these destructive forces.

Dr. Samuel A. Levine, discussing Doctor Peterson's speech, expressed the hope that as a consequence of these air conditioning facilities patients would not have to be sent away from home to derive the benefits of a proper climate.

*Advantages of an Air Conditioned Hospital, Heat., Piping and Air Cond., 9: 24 (Jan.) 1937. Abstracted by Margaret G. Reitz.

On "Doing Something" for the Hospital

Every person who has any desire to "do something" for a hospital would do well to read in full this description* of volunteer hospital service by one who has given long years of careful service and help to hospitals and who is secretary of the social service auxiliary of Bellevue Hospital, New York City.

The article stresses the plain qualities which must be developed by every volunteer worker before her work can be anything but useless and a nuisance. The worker must be punctual and regular in reporting for duty the year round. Any vacation must be planned and adhered to. She must submerge her personality, her prejudices, her likes and dislikes, all sense of social caste. She must take direction and not pick and choose her job. She must have no more favors or consideration than the lowliest hospital employee.

It is a privilege to be allowed to do any work, no matter how remote from the center, that contributes its bit to the healing of the sick, and a volunteer must realize that she is being paid many times over for what she gives. The volunteer is entitled to no more than "the lowliest hospital employee" but she is entitled to as much and should demand it. She is entitled to a definite work schedule and intelligent supervision.

The intelligent volunteer in a hospital can soon grasp the importance of problems which she can often help in solving through her community



BAXTER'S ARE THE PIONEER SOLUTIONS

In every page of history, in every conquest of science or geography or medicine there will be found a pioneer.

A pioneer, with imagination to conceive—with determination to do—with ability to execute—with vision to plan.

Baxter is the pioneer in the development of commercial ready-to-use solutions. Baxter developed intravenous solutions to a high point of perfection, then developed the incomparable Vacoliter — Baxter's dispensing container for intravenous solutions.

In recognition of Baxter's pioneering, the hospitals of America have, by their voluntary acceptance of the Baxter ideal, placed and continuously maintained Baxter in a position of pre-eminence in the field of commercial ready-to-use intravenous solutions.

It costs your hospital no more to use Baxter's Intravenous Solutions in Vacoliters. In fact, we can show you how you may use Baxter's, the pioneer solutions, at even less than your usual cost. Write for information about the Baxter plan.

**BAXTER'S INTRAVENOUS SOLUTIONS IN VACOLITERS ARE PRODUCED BY BAXTER
LABORATORIES IN GLENVIEW, ILL. • GLENDALE, CAL. • COLLEGE POINT, N. Y.
DISTRIBUTED EAST OF THE ROCKIES BY
AMERICAN HOSPITAL SUPPLY CORP. • CHICAGO • NEW YORK**

contacts. The volunteer should direct her reading toward lines helpful to her tasks in the hospital or even take courses in social work or social philosophy better to fit herself for her task.

Auxiliary groups must realize that their function is not to run a department but to help it with its work. Two important avenues of giving such help are the financing of experimental demonstrations to prove the usefulness or impracticability of new ideas and the furnishing of small gifts which may often be worth a great deal more to the work and to the patients than their intrinsic value. The volunteer needs to be well informed on hospital matters and their social implications. She needs to have an informed viewpoint on matters of health, the question of clinic eligibility, the extent to which taxation is justified to support hospital work, standards in the training and work of the nurse and the social worker and other points.

*Potter, Blanche: What Can I Do for the Hospital? Better Times, March 2, 1936. This abstract was prepared in the Grasslands Hospital by one of the workers of the social service department under the direction of Dr. C. W. Munger.

Eliminating the Rat

Although for many centuries the elimination of the rat* has been of vital interest to the individual it is only within the last quarter-century that the importance of permanent control of rats and rodent parasites has been realized as a public health function. The presence of such rodents and their parasites—one a reservoir and the other a potential transmitting agent of bubonic plague and typhus fever—constitutes a grave health risk.

Reports submitted at two international conferences (1928 and 1931) give considerable results obtained by such common methods as natural enemies, poisons, traps and similar means, but raise the question "What, then, is the fundamental reason for failure to secure permanent control?"

From experience and observation of those directing campaigns against rats it is believed the fundamental and basic factor involved is one of rat harborage. The principal reason for our failure is the fact that the rat is still provided with the prime biologic essential—a fixed habitat. This harborage includes three general types: (1) structural, as double walls, space between floors and ceilings and hollow tile partitions; (2) incidental, as furniture and equipment installed, and (3) temporary, as storage, rubbish heaps or odds and ends in attics or cellars.

In the majority of instances rat harborage exists because little consideration has been given by owners, architects or builders to the necessity of providing for its elimination at the

time a building is constructed. Man inadvertently provides rat sanctuaries and gives no thought to the matter until the rodent becomes plentiful. Public health officials must not be content until they have persuaded the architect and builder to give serious consideration to designing and building structures that are fundamentally free from these harborages.

Aside from the rat itself, consideration should be given to the danger of parasites living on it. Dr. C. R. Eskey of the United States Public Health Service finds that the cheopis (flea) index was greater for rats caught in buildings while those living outside have a cheopis index too small to cause an epidemic of plague. The conclusion is that the cheopis is a house flea and the ratproofing of buildings will not only eliminate the rat but will reduce the number of plague spreading fleas in a community.

Since research work has shown that the reservoir of infection of endemic typhus fever is in the rat and is transmitted by the rat flea and since Eskey's observation of the relation of rat harborage to the cheopis index, the elimination of the harborage becomes a paramount necessity in the extermination of endemic typhus fever.

And this brings us to the question of ratproofing and what it is. Scientifically it is the removal of facilities for breeding and protection of the young. Technically it is applying four fundamental rules in construction and upkeep of buildings: (1) Employ a design that fundamentally eliminates unnecessary enclosed spaces. (2) Use material of ratproof character. (3) Employ approved ratproof methods of construction and installation. (4) Provide for periodic inspection of buildings and equipment to ensure permanent upkeep.

Publications dealing with various phases of ratproofing are being revised by the Public Health Service and will be ready for distribution in the near future. This includes corrective ratproofing of existing buildings as well.

The successful outcome of a campaign for extermination includes the dissemination of information through education, not only of the architect, builder, electrician and plumber but of the entire public by means of public schools, universities, civic and other organizations. No progress can be made until these agencies give the health officer their cooperation. Such an educational program will require careful work, but legislation cannot be secured until the public becomes alive to its necessity. If all concerned will be as tireless in their efforts to build out the rat as the rat is to prevent his species from becoming extinct, success is assured.

*Holeendorf, B. E.: Rat Harborage and Ratproofing, Pub. Health Rep., 15: 75 (Jan. 15) 1937. Abstracted by Margaret G. Reitz.

Holes in Linens

Often we are guilty, through ignorance, of destroying linens by the careless use of corrosive substances.*

Every laundryman who has laundered doctors' and nurses' uniforms and hospital linens undoubtedly has received complaints about holes appearing in these articles which have developed during the laundering process. There really is nothing mysterious about the appearance of these holes when it is remembered that disinfectants, astringents, antiseptics and sterilizing agents which doctors and nurses handle are, in most cases, corrosive to textile fibers. Not infrequently hospital attachés will present the argument that they never handle anything which is harmful to textile fibers. This argument is absurd since such corrosive substances as the following are listed in dispensatories and pharmacopeias:

Drugs applied for their local action on skin, wounds or visible mucous membranes are:

Corrosives or caustics: nitric acid (used for removing warts and in treating malignant growths); silver nitrate (used for the treatment of ulcers); chromic acid (used for the gums); alum (used as an astringent for treating ulcers and enlarged tonsils); trichloroacetic acid; phenol; iodine.

Disinfectants and antiseptics: bichloride of mercury; hydrogen peroxide; permanganate of potassium; silver nitrate (basic ingredient of argyrol, also found in throat gargles); cresol; sodium hypochlorites; pleric acid (used in preparation for burns).

Astringents: tannic acid; iron chlorides (used in throat gargles); zinc sulphate (zinc ointments); zinc oxide (zinc ointments); alum (styptic pencils); zinc chloride (used in deodorants).

Miscellaneous: antiseptic solution of pepsin (administered in cases of indigestion, the corrosive component is hydrochloric acid); syrup of phosphate, iron and quinine (administered as a tonic during convalescence. These groups often contain iron sulphate or iron chloride which are corrosive to textile fibers).

Laundries are called on frequently to analyze doctors' and nurses' uniforms which have developed mysterious holes during the laundering process. In practically every case the cause of the damage can be traced to contact with some antiseptic, astringent or sterilizing agent.

Damage to uniforms can be reduced to a minimum if, after each occasion when antiseptics are used rather freely, one will have uniforms or linens rinsed out in clear water. This procedure will remove the corrosive substances from the fabric.

*Hospital Linens, House Organ, Falk Clinic, University of Pittsburgh, Dec. 31, 1936. Abstracted by Joe R. Clemmons, M.D.

Did Brave Patriots Capture MAJOR ANDRÉ?



MOST of us know that during the American Revolution Major John André paid with his life for his part in the treason of Benedict Arnold. Most of us probably believe, too, that André was captured by three Americans who had the highest patriotic motives. School textbooks do not always go into the details, but the facts are that in the territory lying between the American and British lines were bands of gangsters—"Cowboys" who robbed people, to the cry of "God Save the King," and the "Skinners" who robbed with equal zeal in the name of the Continental Congress. Both gangs preyed upon anybody they could.

André had to travel through this robber-infested territory to get back to the British lines after his meeting with General Arnold. Three of the "Skinners," by name, Paulding, van Wart, and Williams, had been lying in wait for the first traveler who might come along. They seized André, hoping to get money from him. If he had carried a well-filled purse, they would have been satisfied, and he might have gone

on his way. But when they failed to find money in his pockets, they made him take off his shoes and there they found the incriminating papers. They then turned him over to the nearest American encampment, doubtless hoping to receive a liberal reward. It is believed they would still have let him go if he could have given them money.

Later, Congress gave each of the three a life pension and a medal inscribed "Fidelity" and "Vincit Amor Patriae."

Major Tallmadge, to whom had been entrusted the custody of André during his trial and until his execution, was a member of Congress from Connecticut

when the proposal to honor Paulding, van Wart, and Williams came up. He exposed the three men and opposed the bill. But in as much as the nation had greatly profited by the capture of André, regardless of the captors' motives, the bill was passed. In other words, Congress broadmindedly honored the men even though they didn't truly represent the spirit of the nation.

♦♦♦♦ Science and industry today look to the name of Rossville—"the Spirit of the Nation"—for the finest alcohols the world has ever produced. Write for complete details about the type of Rossville Alcohol best suited for your particular purpose.

COMMERCIAL SOLVENTS CORPORATION

TERRE HAUTE, INDIANA

DISTILLERS OF

FINE ROSSVILLE ALCOHOLS • "THE SPIRIT OF THE NATION"
BRANCH OFFICES AND WAREHOUSES IN ALL PRINCIPAL CITIES



MODERN HOSPITAL WINDOWS

Fenestra

These Fenestra Steel Windows in the maternity ward are typical of those employed throughout the Faxton Hospital at Utica, N.Y., designed by Architects Bagg & Newkirk. The upper portions of these windows open out, operated by an adjuster working under the screen which is on the room side. The lower portions of the windows (covered by glass curtains) tilt in at the top for indirect ventilation. Windows of this type have been adopted by many leading hospital designers as affording greater convenience; more attractive external and internal appearance and greater privacy than any other window offered to date. For details, write Detroit Steel Products Company, 2250 East Grand Boulevard, Detroit, Michigan or

See Catalog in SWEET'S

BOOKS ON REVIEW

THE PROBLEM OF NUTRITION. Vol. I, *Interim Report of the Mixed Committee of the Problem of Nutrition.* Vol. II, *Report on the Physiological Bases of Nutrition.* By Viscount Astor: League of Nations. 1936. Vol. I, Pp. 98, \$0.50. Vol. II, Pp. 27, \$0.50.

The first two sections of the preliminary report of the nutrition committee of the League of Nations are now available. The first deals with the general problem of nutrition from the economic standpoint, and embodies the suggestions made by the mixed committee to the assembly giving a general idea of the problems involved in food production and economics, as well as generalized standards for food requirements. It is a comprehensive report which brings together the many viewpoints and suggestions for handling the nutritional problem from the various above mentioned standpoints.

The second section, which deals with the report on the physiologic bases of nutrition, as outlined by the technical commission of the health commission, deals more specifically with food requirements. This gives a simple way of calculating caloric requirements for children as well as adults.

It is interesting to note that the protein requirements outlined are higher through early periods of childhood than the standards which have been in use for a long time. The mineral and vitamin requirements are outlined on a qualitative basis rather than on a quantitative basis as is more commonly done.

Suggested dietary schemes are outlined for the pregnant woman and for children of varying ages. These will be helpful to dietitians and should do much to standardize nutritional requirements.

The remaining reports to be published are on nutrition in various countries (which we understand will outline foreign dietaries rather extensively) and statistics of food production, consumption and prices—an economic study of nutrition.

There was such variation in the membership of the committee and so many differences of opinion represented, that it must have been difficult to correlate the ideas. The committee should be commended for the excellent piece of work.—ANNA E. BOLLER.

DISPENSARY PATIENTS AND ECONOMIC STATUS; GREATER CLEVELAND, 1935. By Howard Whipple Green. Cleveland: Cleveland Health Council. 1936. Pp. 64. \$1.

This excellent monograph presents the results of a careful study of the numbers, places of residence, type of community and other germane facts about the 44,000 new patients seen in the out-patient departments of ten Cleveland hospitals, who, together with the old patients made a total of 624,500 clinic visits in 1935. It clearly demonstrates several things: first, that the patients themselves have districted the city and, in general, go to the nearest dispensary; second, that there is a close correlation between the economic character of the place of residence and the percentage of families seeking out-patient care, and, third, that the system of dividing Cleveland into small census tracts for intensive study of social and health matters is a valuable addition to our statistical tools.—ALDEN B. MILLS.

BOTH ARE "LITTLE THINGS"...BUT



important in patient care

THERMOMETERS and soap . . . of course they are "little things" physically. But how important both are in proper patient care—and nobody knows better than you how carefully they must be selected for your hospital!

The best soap is bland and soothing. Made of pure *vegetable oils* that are kind to supersensitive, tender skins. Free from adulterants or heavy animal fats. Soap that lathers freely in warm or cold water. And that's why so many leading hospitals choose Palmolive Soap . . . *made from choice Olive and Palm oils.*

In addition, *patients prefer Palmolive.* Proved by the fact that more people buy Palmolive for use in their homes than any other toilet soap!



Palmolive's Extra Quality is Free Yes, it is actually **FREE!** Because Palmolive Soap costs no more than many less-favored brands.

Your C.P.P. Representative will gladly quote prices on Palmolive Soap—and on the finest, most economical soaps for laundry and maintenance use, too. Or write Colgate-Palmolive-Peet Co., Industrial Dept., 105 Hudson St., Jersey City, N. J. for the valuable Free Booklet: "Hospital Housekeeping and Cleanliness." It's a dependable soap-buying guide. No obligation. Why not send for your free copy—**TODAY?**

Palmolive Soap

CHOSEN EXCLUSIVELY FOR THE DIONNE QUINS BY DR. DAFOE

WHAT A DIFFERENCE CRISPNESS MAKES



You wouldn't think of using anything but crisp uniforms and caps in the hospital. Crispness makes a wonderful difference! The same thing goes for wheat flakes!

A BREAKFAST TRAY is twice as welcome if it includes a bowl of crispness. Kellogg's Wheat Krispies are "blended for crispness." They actually stay crunchy and good in milk or cream. The last spoonful is just as crisp as the first. They have the nourishment of whole wheat. Iron for blood. Elements for energy.

Kellogg's Cereals—in individual packages—save lots of fuss and bother in hospital menus. They're ready to serve, with enough variety to please every taste. No costly cooking. No waste. Always oven-crisp in WAXTITE packages. Made by Kellogg in Battle Creek.



BLENDED for CRISPNESS

NEW PRODUCTS . . .

Emergency Power for Hospitals

Barring floods and earthquakes, a city water main is generally considered to be a reliable source of energy, and so it is to city water mains that Stanley & Patterson, 150 Varick Street, New York City, connect the new Faraday hydro-electric emergency current supply outfits, the miniature hydro-electric generating sets which are said to provide a dependable supply of current whenever that from central station or private plants fails.

The operation of the Faraday emergency current supply outfits is entirely automatic. The valve controlling the flow of water is held closed as long as the regular supply of current continues, but, should the regular supply fail, the magnetic-solenoid valve opens instantly and automatically and the emergency current outfit will provide the standard AC or DC current required within one second. So quickly does the unit function, says Stanley & Patterson, that just a flash of lamps in the circuit can be noted. As soon as the normal supply of electric current is restored, the magnetic-solenoid again automatically connects the load to the outside source of current, shuts off the water flow, and the hydro-electric outfit stops without manual attention. A new type of ball-bearing governor regulates the frequency and voltage, fully compensating for variations in water pressure and the load on the generator.

The Faraday unit is recommended by its makers for such apparatus as fire alarm systems, hospital signal systems, emergency lighting and telephone systems.

Supporting Laboratory Glassware

By way of increasing the longevity of perishable items of laboratory glassware, E. H. Sargent and Company, 155 East Superior Street, Chicago, offer new welded steel supports covered with latex rubber. These supports, which are made in several shapes and sizes to hold test tubes, pipettes, flasks and funnels, are said also to be extremely tough and resistant to the deleterious effects of acids, alkalies and water.

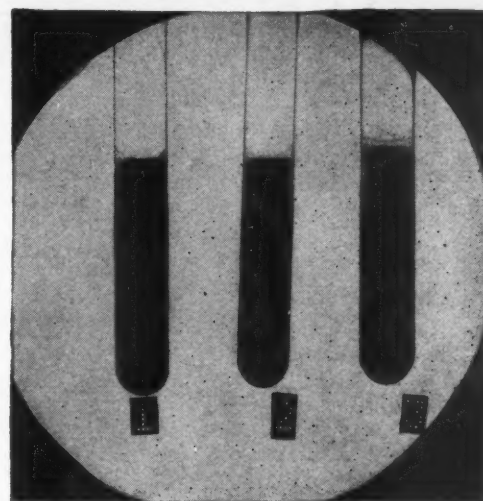
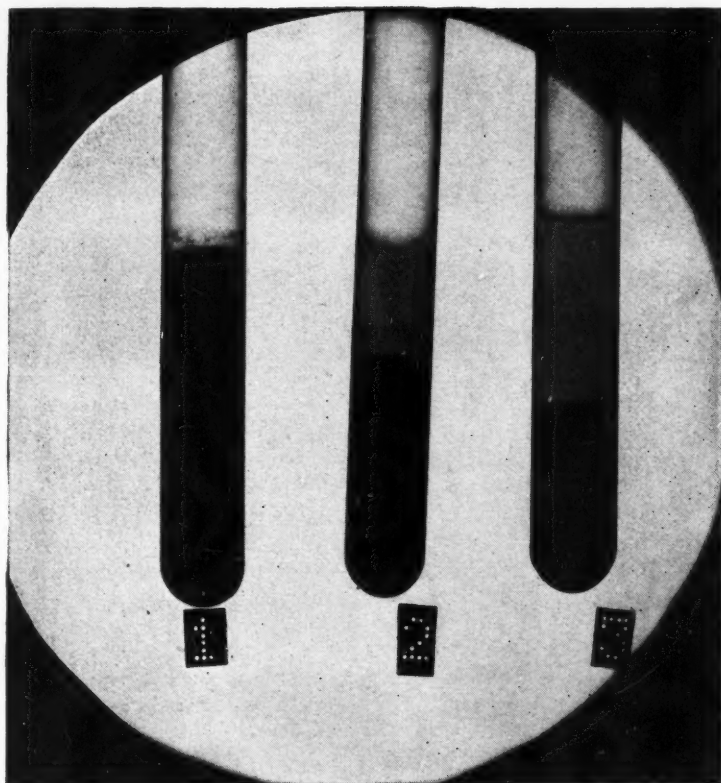
Another interesting new Sargent product is a rubber covered bedside hospital service tray equipped for complete routing collection of blood samples for cell count, smear microscopy and hemoglobin reports in one trip. An erasable celluloid strip is mounted at the middle of the tray for identification notations.

Spun Glass

It looks like cotton, but it's not cotton; it doesn't look like glass, but it is glass. That's the new fibrous glass which is the latest apple of the Corning Glass Works' (Corning, N. Y.) eye. Threads of glass of almost microscopic fineness, yet, we are told, resilient, tough and pliable with a tensile strength of mild steel, are woven into yarn of amazing strength and the yarn is woven into fabrics.

Aside from its possibilities for use in the laboratory which are many and various, it has several industrial applications. Chief among the latter are insulation and air conditioning. The insulating grades of fibrous glass have a fiber length said to be six times that of any other known, commercially available insulating material. This length, together with the natural resilience of glass results

What a Difference a Precipitated Barium *makes!*



This X-ray photograph, taken just after shaking three different samples of barium sulphate in equal quantities of water, shows the greater suspension power of No. 1, Mallinckrodt Barium Sulphate.

This X-ray photograph, taken three minutes later, graphically portrays the greater sustained suspension power of Mallinckrodt Barium Sulphate. Samples No. 2 and 3 have settled while the Mallinckrodt product remains almost perfectly suspended.

It is the sheer fineness of Mallinckrodt Barium Sulphate—made by precipitation—which results in such distinctly sharp, black and white contrasts. Its longer-lasting, even suspension brings out every detail of the G-I tract. Its smooth, easy elimination guards against damage to gastro-intestinal walls.

Try this gritless, superbly smooth Barium Sulphate made by precipitation—Mallinckrodt Barium Sulphate. It costs no more.

Mallinckrodt

CHEMICAL WORKS

St. Louis

Chicago

Philadelphia

New York

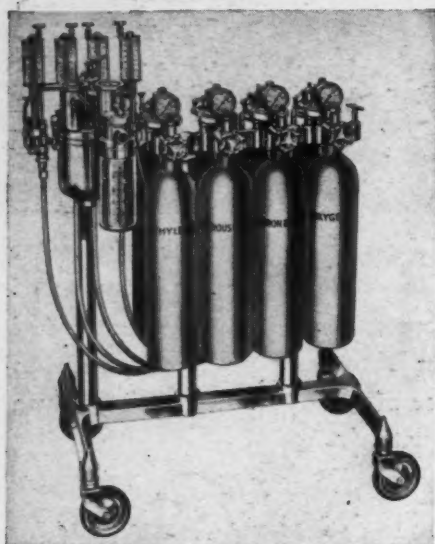
Montreal

Toronto

PROTECTING THE POTENCY OF YOUR PRESCRIPTIONS SINCE 1867

HEIDBRINK

GAS APPARATUS



STAND MODEL No. 410A

KINET — O — METER

STAND, CART OR
CABINET MODELS

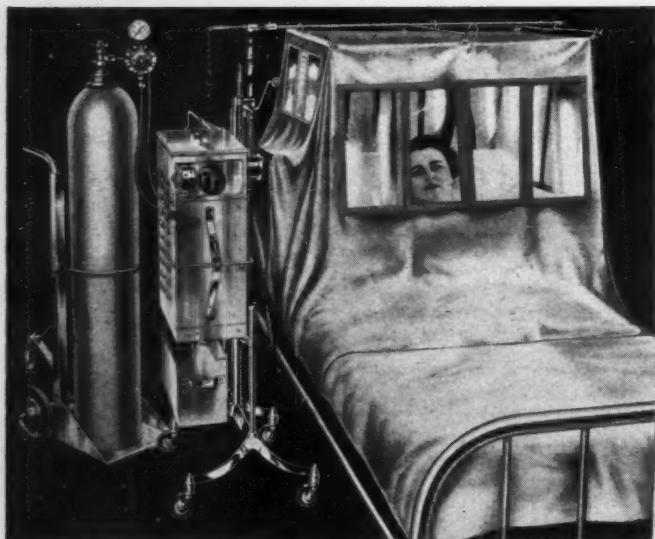
FOR

3, 4 OR 5 GASES

The Flow Meters
Accuracy in measuring, registering and delivering each gas is assured by the dry-float flowmeters.

The unequalled performance of the Heidbrink Kinet-O-Meter insures better results at greatly reduced costs. Its many features simplify administration and develop the confidence of the operator.

OXYGEN TENTS



OXYGEN TENT MODEL 57

3 Models—two motorized and one motorless—embody many innovations and features of practicability. Any nurse can perform every duty incident to the application, operation and adjustment of any Heidbrink Tent.

Descriptive literature free upon request.

HI-CO

THE HEIDBRINK COMPANY
MINNEAPOLIS MINNESOTA

in a material weighing $1\frac{1}{4}$ pounds per cubic foot, several times lighter than cork. It is also available in nodulized or granulated form, weighing about 2 pounds. This product can be blown into the hollow walls of buildings.

Chemists who are accustomed to working with glass wool will undoubtedly be pleased to note, as the manufacturers point out, that the new fibers are too soft and pliable to puncture the skin. They will also discover that it has no tendency to disintegrate and fall to powder even when subjected to prolonged, violent vibration or hard packing.

Fire Fighting Door

Shutting the door in the face of fire is the bright idea of the Norton Door Closer Company, 2900 North Western Avenue, Chicago. This interesting feat is accomplished by means of an adaptation of the well known Norton holder principle. During ordinary use of the door, the closer functions just as all good closers should. When the holder feature is used, the fusible link is in position right in the door opening where an increase in the temperature will quickly affect it. A temperature of 160° F. is as high as is needed to make the link melt and release the holder arm. Then the door, the manufacturers assert, closes under the power of the spring in the closer and is held tightly shut to prevent the draft from forcing it open.

There are two styles of these door closers: one approved by the National Board of Fire Underwriters and one which is not so approved.

A Valve is a Valve is a Valve

Calling a valve a valve is not enough. To be accurate one should say that a valve is a radiator valve is an adjustable valve is a regulating plate. That's the Gertrude Stein in us. What we mean to convey is that C. A. Dunham Company, 450 East Ohio Street, Chicago, is offering a new adjustable regulating radiator valve, Type 174, which is also an adjustable regulating plate. Used with the Dunham differential vacuum heating system, they tell us, it permits balancing and regulating individual radiators. This valve, which is available in all styles and patterns, is adaptable to existing heating systems where heating satisfaction is low because of lack of "balanced" steam distribution.

Waxing to Save Work

Use wax to save elbow grease suggests the Franklin Research Company of Philadelphia. The wax to which they refer specifically is a new furniture polish which they claim combines the best features of oil, wax and abrasive polishes. This material has a carnauba wax base combined with oils which, 'tis said, have been selected and blended to feed the average type finish found on wood and metal furniture and fixtures. Furthermore, this polish lays a film on the surface which stays put and makes it possible to maintain a glossy finish by a periodical dusting with a dry cloth.

Paging New Literature

Catalogue for the Complete Laboratory—A new type of catalogue, and certainly a comprehensive one, of laboratory apparatus, chemicals and reagents has made its appearance under the sponsorship of Sharp & Smith, 65 East Lake Street, Chicago. It is divided into several sections, including equipment and specifications for the general laboratory, the clinical laboratory and the small hospital laboratory. There is also an alphabetically arranged



» » EXERCISE « «

Exercise is one of the important factors in the treatment of constipation. Of equal importance are suitable diet and a regular habit time for bowel movement. Unfortunately, under the present mode of living, such strict regimen is difficult to enforce. While your patient may be inclined to forsake suit-

able diet and exercise, it is imperative that a daily bowel movement be maintained. Petrolagar assists in establishing a normal bowel movement as it mixes intimately with the feces to form a soft easily passed stool. . . . By the use of Petrolagar habit time may be readily established and maintained.

PETROLAGAR LABORATORIES, INC., CHICAGO, ILL.

Petrolagar is a mechanical emulsion of pure liquid petrolatum (65% by volume) and agar-agar. Accepted by the Council on Pharmacy and Chemistry of the American Medical Association for the treatment of constipation.



Petrolagar



I want to send you a box of *FRESH* corn...*FREE*

I guess it sounds like a miracle to talk of sending you farm-fresh corn in March.

Yet if you don't believe the age of miracles has come, simply drop me a letter and I'll send you a box of corn as tender and juicy as any Golden Bantam you've eaten at the height of the corn season.



Here's the secret . . .

First, we pick the corn at its ripest, plumpest peak. We husk it . . . clean it . . . and cut the kernels *whole* from the cob. Then before a sniff of the rich flavor can dry out we SEAL it smack inside the corn by a remarkable process called Birds Eye Quick-Freezing. A patented process that actually imprisons every rich whiff at flavor-peak—and holds it there for you.

No matter how much water has flowed under the bridge that corn will stay as fresh as the day it was picked. No matter how long ago the corn season closed, it is possible to serve today, *in March*, the farm-freshest corn ever spread before your patrons.

The truth is this miraculous process literally makes Time stand still!



Now, I know all this may sound technical and hard to believe. That's why I want you to taste the corn. I want you to see just how sweet and juicy Birds Eye Corn is. I want you to prove to yourself that here's an inspired way to spice up your early Spring menu with real summer freshness.

Write me today. And I'll send one of our men with a box of Birds Eye Corn, pronto. Address your letter to Frosted Foods Sales Corp., 250 Park Ave., New York, N. Y.

Edwin T. Gibson
EDWIN T. GIBSON
PRESIDENT

BIRDS EYE
FROSTED FOODS

list of chemicals and reagents for the benefit of prospective purchasers of such items. The first page of the book contains a quick reference sectional index which should be a boon to those who object to having to hunt for what they want.

Convenience à la Colson—To make life easier for the doctor, nurse and patient is the admirable ambition of the Colson Corporation, Elyria, Ohio, and one of the ways in which they attempt to achieve this is by issuing a neat, handy booklet describing various Colson products which should certainly be a convenience to the prospective purchaser. The equipment described and liberally illustrated in the new literature includes laundry hampers, stretchers, tray trucks, oxygen trucks, wheel chairs, dressing carts and the wheels and casters with which all of these items are equipped to make them roll easily and quietly.

Help for Laundry Operators—A stain on the family 'scutcheon, some folks think, is as nothing compared to a stain on the family laundry; and many an honest laundryman has grown gray before his time trying to figure out ways of removing stains without substituting holes. A happy solution to this problem is offered by the Buffalo Electro-Chemical Co., Inc., River Road and Sawyer Avenue, Buffalo, N. Y., makers of Becco Hydrogen Peroxide.

In addition to their product, this helpful company offers a series of informative bulletins discussing the effect of hydrogen peroxide as a bleach on white goods, colored goods, blankets and all manner of textiles, and giving instructions as to the best ways of using it in each case.

The harassed laundry operator might do well to go into the subject with the Buffalo Electro-Chemical Company and see what they have to offer.

Fast Work With Cement—Speed is the keynote of this modern era and along comes The Best Bros. Keene's Cement Co., 100 West Madison Street, Chicago, with a cement with stepped up drying qualities to keep pace with the mad rush. This Fast Finish cement, they tell us in a brochure recently issued on the subject, produces hard, durable ceilings and walls and sets fast enough for finish troweling without waiting; in fact, the plasterer need not leave the scaffolding before the job is completely finished.

Beside the cement, this company produces other items definitely applied to hospitals, such as plaster of Paris and impression plasters for dental and laboratory use. They'll be glad to tell you all about these products if you want to write them.

Freezing Preserves Fruit Juice—"Ice cold lemonade, made in the shade, stirred with a spade!" Remember the days of your childhood? These days ice cold lemonade—and for that matter, orange and grapefruit juice—comes to you frozen and packed in enamel lined cans. The California Consumers Corporation, 230 West Jefferson Boulevard, Los Angeles, is responsible for the idea of preserving the juice of citrous fruits by extracting it in refrigerated rooms and vacuum packing and freezing it at very low temperatures. The juice is pre-cooled, thus preventing oxidation and the loss of the all important vitamins.

The cans thereafter may be shipped under refrigeration to the thirsty consumers who store them in their fiber-board cases where the temperature is about 10° F. or lower, and the juice in its frozen state is said to keep indefinitely. The liquefying process requires placing the individual cans in the refrigerator for about twenty hours. At the end of that time, take the can out and shake it; if it gurgles, you're all set.

The California Consumers Corporation will be pleased to send sundry pamphlets discussing the merits of Trujis—the official name—and describing each step of the juice's progress from tree to tummy.